PROTOCOL

AN ORAL (GAVAGE) REPRODUCTION/DEVELOPMENTAL TOXICITY SCREENING STUDY OF H-28548 IN MICE

(U.S. EPA OPPTS 870.3550 and OECD Guideline 421)

Submitted To:

E.I. du Pont de Nemours and Company
Wilmington, Delaware 19898

DuPont Work Request Number: 18405
DuPont Service Code: 1037
DuPont Study Number: 18405-1037

WIL Research Laboratories, LLC
1407 George Road
Ashland, OH 44805-8946

1 OBJECTIVE:

To provide preliminary information on the potential adverse effects of the test substance on male and female reproduction within the scope of a screening study. This will encompass gonadal function, mating behavior, conception, parturition and lactation of the F_0 generation and the development of offspring from conception through day 40 of postnatal life.

In addition, a toxicokinetic assessment of plasma levels of the test article will be performed in the F_0 females and the F_1 pups at culling and on PND 21 and PND 40.

This study is subject to the applicable regulations of the Organisation for Economic Cooperation and Development (OECD) Guideline for Testing of Chemicals, Guideline 421, Reproduction/Development Toxicity Screening Test, July 27, 1995, and the United States Environmental Protection Agency (EPA) Health Effects Test Guidelines OPPTS 870.3550, Reproduction/Developmental Toxicity Screening Test, July 2000 and will be conducted in accordance with the EPA/TSCA and FIFRA (40 CFR Part 792 and 40 CFR Part 160) and the OECD Principles of Good Laboratory Practice.

2 PERSONNEL INVOLVED IN THE STUDY:

2.1 Study Representative:

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Developmental, Reproductive and Neurobehavioral Toxicology
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2.3 WIL Study Director:

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2.4 WIL Departmental Responsibilities:

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2.5 Principal Investigator, Plasma Sample Analysis and Report:

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3 STUDY SCHEDULE:

Proposed Experimental Starting (Animal Receipt) Date:	5 January 2010
Proposed Experimental Start (First Day of Dosing) Date:	14 January 2010
Proposed Experimental Completion/Termination Date:	4 June 2010
Proposed Audited Report Date:	~~To be determined~~10 September 2010

4 TEST SUBSTANCE DATA:

4.1 Test Substance Shipment:

Test substance and applicable documentation, including a Certificate of Analysis, will be shipped under Sponsor's responsibility to:

Formulations Laboratory (WIL-189225; Tammye Edwards)
Attn: Larry Blessing
WIL Research Laboratories, LLC
1407 George Road
Ashland, Ohio 44805-8946

4.2 Identification:

H-28548 or HFPO Dimer Acid Ammonium Salt

4.3 Haskell Test Substance Number:

H-28548

4.4 Lot Number:

E109540-44A

4.5 Expiration/Retest Date:

13 June 2011

4.6 Purity:

84%

4.7 Storage Conditions:

Controlled room temperature and humidity (approximately 18° to 24°C and 20% to 70% relative humidity)

4.8 Stability:

The analysis was performed by the Sponsor and documented on the Certificate of Analysis.

4.9 Physical Description:

To be documented by WIL Research Laboratories, LLC.

4.10 Reserve Samples:

Reserve samples of the test substance will be taken in accordance with WIL Standard Operating Procedures and stored in the Archives at WIL Research Laboratories, LLC indefinitely, unless otherwise specified.

4.11 Personnel Safety Data:

See the Material Safety Data Sheet (MSDS) provided by the Sponsor.

4.12 Test Substance Disposition:

With the exception of the reserve sample for each batch of test substance, which will be archived as described, all neat test substance remaining at completion of the in-life phase of the study will be kept for subsequent studies.

5 TEST SYSTEM:

5.1 Species:

Mouse

5.2 Strain:

Charles River Crl:CD1(ICR)

5.3 Source:

Males: Charles River Laboratories, Inc., Raleigh, NC
Females: Charles River Laboratories, Inc., Kingston, NY

5.4 Number on Study:

100 males and 100 females (minimum of 120 males and 120 females purchased; males and females will be ordered from separate facilities to ensure the avoidance of sibling mating). Animals not assigned to study will be transferred to the stock animal colony or will be euthanized by carbon dioxide inhalation and the carcasses discarded.

The number of animals used on this study is consistent with OPPTS and OECD guidelines for reproduction/developmental toxicity screening studies.

5.5 Body Weight Range:

A minimum of 20 grams at randomization.

5.6 Approximate Age:

The approximate age of the males at randomization will be 42-63 days. The approximate age of the females at randomization will be 70-80 days.~~42-63 days old at randomization.~~

5.7 Identification System:

Each mouse will be uniquely identified by tattoo markings applied to the tail. Individual cage cards will be affixed to each cage and will display the animal number, group number, study number, dosage level and sex of the animal.

5.8 Justification for Selection:

This species and strain of animal is recognized as appropriate for reproduction studies. WIL Research Laboratories, LLC has reproductive historical control data in the Crl:CD1(ICR) mouse. This animal model has been proven to be susceptible to the effects of reproductive toxicants.

6 SPECIFIC MAINTENANCE SCHEDULE:

6.1 Animal Housing:

The animals will be housed, 2-3 per cage, for at least 3 days following receipt. Thereafter, the mice will be housed individually. The females will be housed individually in solid bottom cages upon arrival.The F_0 males and females will be individually housed in solid bottom cages (plastic maternity cages) containing ground corncob nesting material (Bed-O' Cobs®) in an environmentally controlled room during the quarantine period and throughout the entire study until euthanasia. All F_1 offspring not euthanized at weaning will be housed by litter in the plastic cages with nesting material until postnatal day (PND) 28. F_1 offspring not selected for the maturation phase will be necropsied on PND 21. On PND 28, F_1 offspring will be individually housed in solid bottom cages (plastic maternity cages) containing ground corncob nesting material (Bed-O' Cobs®). The cages will be subject to routine cleaning at a frequency consistent with maintaining good animal health and WIL Standard Operating Procedures. The facilities at WIL Research Laboratories, LLC are fully accredited by the Association for Assessment and Accreditation of Laboratory Animal Care International (AAALAC International).

6.2 Environmental Conditions:

Controls will be set to maintain temperature at 71 ± 5°F (22 3°C) and relative humidity at 50 ± 20%. Temperature and relative humidity will be monitored continuously. Data for these two parameters will be scheduled for automatic

collection on an hourly basis. Fluorescent lighting controlled by light timers will provide illumination for a 12-hour light/dark photoperiod. The ventilation rate will be set at a minimum of 10 room air changes per hour, 100% fresh air.

6.3 Drinking Water:

Reverse osmosis-purified water will be available *ad libitum*. Filters servicing the automatic watering system are changed regularly according to WIL Standard Operating Procedures. The municipal water supplying the laboratory is analyzed according to WIL Standard Operating Procedures on a routine basis to ensure that contaminants are not present in concentrations that would be expected to affect the outcome of the study.

6.4 Basal Diet:

PMI Nutrition International, LLC Certified Rodent LabDiet® 5002 will be offered *ad libitum* during the study. Periodic analyses of the certified feed are performed by the manufacturer to ensure that heavy metals and pesticides are not present at concentrations that would be expected to affect the outcome of the study. Results of the analyses are provided to WIL Research Laboratories, LLC by the manufacturer. Feeders will be changed and sanitized once per week.

6.5 Enrichment:

All animals will be offered Nestlets™ for enrichment that will be replaced as needed.

7 EXPERIMENTAL DESIGN:

7.1 Animal Receipt and Quarantine:

Each animal will be inspected by a qualified technician upon receipt. Mice judged to be in good health and suitable as test animals will be immediately placed in quarantine for a minimum of 9 days. All mice will be initially weighed, permanently identified by tattoo markings applied to the tail and receive a clinical observation. During the quarantine period, each mouse will be observed twice daily for changes in general appearance and behavior. Prior to the start of the in-life phase, those animals judged to be suitable test subjects will be identified and receive a detailed physical examination.

7.2 Randomization:

At the conclusion of the quarantine period, animals judged to be suitable test subjects and meeting acceptable body weight requirements, will be assigned at

random using a computer program. At that time, the animal numbers and corresponding body weights will be entered into the WIL Toxicology Data Management System (WTDMS). A printout containing the animal numbers and individual group assignments will be generated based on body weight stratification into a block design. Animals will then be arranged into the groups according to the printout. The control group and three test item groups will consist of ~~20~~ 25 males and ~~20~~ 25 females each.

Any animal assigned to the study that is found dead, euthanized *in extremis* or exhibits abnormal clinical signs, reduced food consumption or body weight losses prior to the start of dosing may be replaced by an animal of appropriate age when possible. Replacement animals will be arbitrarily assigned (not computer randomized) to the study based on comparable body weights (if possible) with respect to the animal that was replaced.

7.3 Route and Rationale of Test Item Administration:

The route of administration will be oral (gavage). Historically, this route has been used extensively for studies of this nature. Appropriately sized flexible, Teflon®-shafted, stainless steel dosing cannulae will be used for the oral administration by gavage. The dosing cannulae mayor may not be ball-tipped as appropriate for the age of the animal.~~Appropriately sized flexible, Teflon® shafted, stainless steel balltipped dosing cannulae will be used for the oral administration by gavage~~.

7.4 Organization of Test Groups, Dosage Levels and Treatment Regimen:

7.4.1 Organization of Test Groups:

The dose levels proposed for the current study are 0, 0.1, 0.5, and 5 mg/kg/day and are based on previous and ongoing general toxicity studies in mice. These levels are currently being tested in an ongoing (in-life dosing phase complete) subchronic toxicity 90-day gavage study (DuPont-18405-1307). The doses for the 90-day gavage study were based on results from a previous 28-day gavage study (DuPont-24459) in which doses of 0, 0.1, 3, and 30 mg/kg/day were tested.

The following table presents the study group arrangement.

Group Number	Test Item	Dosage Level (mg/kg/day)	Dosage Concentration (mg/mL)	Dosage Volume (mL/kg)	Number of Animals	
					Male	Female
1	Vehicle Control[b]	0	0	10	25	25
2	H-28548	0.1	0.01	10	25	25
3	H-28548	0.5	0.05	10	25	25

4	H-28548	5	0.5	10	25	25

[a] Dosage levels will be corrected for the purity of 84%.
[b] Deionized Water

7.4.2 Vehicle Control Item:

Deionized Water

7.4.3 F_0 Treatment Regimen:

The test and control items will be administered once daily at approximately the same time each day as follows:

7.4.3.1 Males:

F_0 males will be dosed for a minimum of 70 days prior to mating and continuing until the day prior to the scheduled euthanasia.

7.4.3.2 Females:

F_0 females will be dosed for a minimum of 14 days prior to mating and continuing throughout mating, gestation and lactation until Lactation Day (LD) 20, inclusively, for females that deliver, with the exception of the 5 females/group that are selected for blood collection on LD 21, which will also receive a dose on LD 21. ~~F_0 females will be dosed for a minimum of 14 days prior to mating and continuing throughout mating, gestation and lactation until Lactation Day (LD) 21 for females that deliver. For females that do not have positive signs of mating or delivery, dosing will continue until one day prior to euthanasia~~.

7.4.3.3 F_1 Males and Females:

F_1 males and females will be dosed beginning in PND 21 through PND 40, inclusively. ~~F_1 males and females will be dosed beginning in PND 21 until one day prior to euthanasia.~~

7.4.4 Adjustment of Dosages:

Individual dosages will be calculated based on the most recent body weight to provide the proper mg/kg/day dosage.

7.5 Preparation and Analysis of Test Item Formulations:

7.5.1 Method and Frequency of Preparation:

Based on the physical characteristics of the test substance, appropriate methods will be used to ensure the best possible formulations of the test substance in the vehicle. Dosing formulations will be stored refrigerated (2-8°C) for a maximum of 12 days. The Study Director or designee will visually inspect the formulations prior to the initiation of dosing. This visual inspection will be performed to ensure that the formulations are visibly homogeneous and acceptable for dosing. Any special procedures required for formulation will be documented according to Good Laboratory Practices and presented in the final report of this study. Test substance formulations will be prepared approximately weekly and divided into aliquots for daily dispensation. The test substance and vehicle formulations will be stirred continuously during dosing.

7.5.2 Homogeneity, Resuspension Homogeneity, Stability and Concentration Determination of Test Substance Formulations:

Stability and resuspension homogeneity were established on a previous study (Haas, Draft; WIL-189216). Test substance formulations were stable and 12 days of room temperature storage or refrigerated storage (2-8°C) at concentrations of 0.01 mg/mL and 100 mg/mL and homogenous following resuspension after 12 days of refrigerated storage (2-8°C). Stability and resuspension homogeneity will not be conducted on this study.

Homogeneity and concentration will be conducted on the first formulations prepared for dosing. Four 1-mL samples will be collected from the top, middle and bottom of the test substance formulations from the low and high dose groups and the samples analyzed to assess the homogeneity of the test substance in the mixtures; the middle strata will serve as the measure of test substance concentration. Four 1-mL samples will be taken from the middle on the control and the mid-dose groups and analyzed for concentration of the test substance.

Concentration will be assessed on Week 4, 8, 12, 16 and 19 formulations prepared for dosing. Four 1-mL samples will be collected from the middle of each test substance formulation and the control group and analyzed for test substance content.

7.5.3 Sample Analysis:

Samples will be transferred to the Analytical Chemistry Department at WIL Research Laboratories, LLC for analysis. Analyses of test article formulations will be performed using a method developed and validated

by WIL Research Laboratories, LLC. Initially, two of each set of four replicate, 1-mL samples will be analyzed; the remaining two 1-mL samples will be stored frozen (approximately -20°C) at WIL and will function as back-up samples. Back-up samples will be analyzed if requested by the Sponsor or Study Director or may be discarded following results that are within specifications and approval of the Study Director.

7.6 F_0 Breeding:

After a minimum of 70 days for males and 14 days of exposure for females, of exposure, one female will be cohabitated with one male mouse of the same treatment group, avoiding sibling mating, in a plastic cage for mating. Detection of mating will be confirmed by ~~evidence of sperm in the vaginal lavage~~the appearance of a vaginal copulatory plug. After confirmation of mating, the female will be returned to an individual plastic cage and the day will be designated as day 0 of gestation.

A maximum of 14 days will be allowed for mating. After 14 days of mating, any females who have not shown evidence of breeding will be placed in a plastic cage containing nesting material.

7.7 F_0 Parturition and Lactation and F_1 Litters:

The day parturition is initiated will be designated as day 0 of lactation. Any difficulties at the time of parturition will be recorded. When parturition is judged to be complete, the sex of each pup will be determined, pups will be examined for gross malformations and the number of stillbirths and live pups will be recorded. Any changes or abnormalities in nesting and nursing behavior will be recorded. The dam and litter will remain together until postnatal day (PND) 21.

7.8 Identification of F_1 Litters:

Upon completion of delivery, all pups will be individually identified by tattoo markings applied to the digits. To reduce variability among the litters, on PND 4, eight pups of equal sex distribution (if possible) from each litter will be randomly selected. For litters consisting of fewer than eight pups, adjustments for litter sizes will not be performed. Following selection, the non-selected PND 4 pups will be euthanized by an intraperitoneal injection of sodium pentobarbital and discarded.

7.9 General Observations During the Experimental Period

7.9.1 Parental Appearance and Behavior:

Each parental mouse (F_0) will be observed twice daily for moribundity and mortality, once in the morning and once in the afternoon. A detailed physical examination will be conducted weekly. Mortality and all signs of overt toxicity will be recorded on the day observed. The observations shall include, but are not limited to, evaluations for changes in appearance of the skin and fur, eyes and mucous membranes, respiratory, circulatory, autonomic and central nervous systems, somatomotor activity and behavior. During the period of expected parturition, the dams will be observed twice daily for dystocia, prolonged labor, delayed labor or other difficulties at parturition. All animals will also be observed on the day of necropsy and findings will be recorded.

During the treatment period, each animal will be observed at approximately 1-2 hours following each dose administration for findings that are potentially related to treatment of that might change before the next scheduled observation. Additional post dosing observation periods may be necessary and will be documented in the study records.

7.9.2 Parental Body Weights:

All animals will have a final body weight recorded on the day of euthanasia.

7.9.2.1 Males:

Recorded individually on a weekly basis, beginningon the first day of dose administration, until euthanasia.

7.9.2.2 Females:

For those females with evidence of mating, body weights will be recorded individually on a weekly basis, beginningon the first day of dose administration, until evidence of copulation is observed and on gestation days 0, 4, 7, 11, 14 and18 and on lactation days 1, 4, 7, 14 and 21~~Recorded individually on a weekly basis, beginning on the first day of dose administration, until evidence of copulation is observed and on gestation days 0, 4, 7, 11, 14, 17 and 20and lactation days 1, 4, 7, 14 and 21.~~

For females with no evidence of mating, individualbody weights will continue to be recorded on a weekly basis until euthanasia.

7.9.3 Parental Food Consumption*:

Individual food consumption will not be recorded during the breeding period because the animals are cohabitated at that time.

7.9.3.1 Males:

Recorded individually on a weekly basis, beginning on the first day of dose administration, until euthanasia.

7.9.3.2 Females:

Recorded individually on a weekly basis beginning on the first day of dose administration, until the start of the mating period. Individual food consumption will be recorded on the day evidence of copulation is observed (GD 0) and on gestation days 4, 7, 11, 14 and 18 and lactation days 1, 4, 7, 14 and 21. ~~Recorded individually on a weekly basis beginning on the first day of dose administration, until the start of the mating perid. Individual food consumption will be recorded on the day evidence of copulation is observed (GD 0) and on gestation days 1, 7, 11, 14, 17 and 20 and lactation days 1, 4, 7, 14 and 21.~~

For females with no evidence of mating, individual food consumption will continue to be recorded on a weekly basis following the end of the mating period until euthanasia.

7.9.4 Examination of Offspring:

7.9.4.1 Appearance and Behavior:

All pups will be observed daily for general appearance and behavior and survival during lactation. A detailed physical examination will be recorded for each pup on PND 1,4, 7, 14 and 21. Any abnormalities in nesting and nursing behavior will be recorded. The pups will be sexed on PND 0, 4, 14 and 21.

7.9.4.2 Body Weights:

Each pup will be weighed on PND 1, 4, 7, 14 and 21.

7.9.5 Pup Deaths:

7.9.5.1 Pups 0 to 4 Days of Age:

Moribund pups will be euthanized by an intraperitoneal injection of sodium pentobarbital. Stillborn pups, pups found dead between birth and PND 4, and any pups that are euthanized *in extremis* will be dissected (including the heart and the brain examined by a mid-coronal slice) by a technique described by Stuckhardt and Poppe (Stuckhardt and Poppe, 1984). If a skeletal anomaly is suspected, the pups will be eviscerated, cleared and stained with Alizarin Red S as described by Dawson (Dawson, 1926) and examined. Representative specimens with malformations may be preserved in 10% neutral buffered formalin at the discretion of the study director.

7.9.5.2 Pups 5 Days of Age to Weaning:

Moribund pups will be euthanized by an intraperitoneal injection of sodium pentobarbital (prior to PND 11) or by carbon dioxide inhalation. A gross necropsy will be performed on pups found dead or euthanized *in extremis*, and gross lesions will be saved for possible future histopathological examination in 10% neutral buffered formalin. If a skeletal anomaly is suspected, the pups will be eviscerated, cleared and stained with Alizarin Red S as described by Dawson (Dawson, 1926) and examined.

7.10 Selection of F_1 Generation and Termination of PND 21 Nonselected Pups:

One male and one female pup per litter will be selected for the F_1 generation on or prior to PND 21. Only pups not expected to survive due to notable physical limitations will not be available for selection. A detailed evaluation of each pup excluded from selection will be recorded.

All PND 21 pups not selected for the F_1 generation will be euthanized by carbon dioxide inhalation. A gross necropsy examination will be performed with an emphasis on evaluation of developmental morphology and organs of the reproductive system. Any gross lesions will be saved for possible future histopathological examination in 10% neutral buffered formalin.

7.11 Euthanasia of F_0 Generation:

7.11.1 Females:

7.11.1.1 Females Which Deliver:

On lactation day 21, all F_0 females that delivered will be euthanized by carbon dioxide inhalation. A gross examination will be performed and tissues preserved as described in Section 8.1. The number of former implantation sites will be recorded. Organ weights will be collected and tissues preserved as described in Section 8.2.

7.11.1.2 Females Which Fail to Deliver:

On post-mating day 23 (females with evidence of mating) or post-cohabitation day 23 (females without evidence of copulation), the F_0 females which fail to deliver will be euthanized by carbon dioxide inhalation. ~~On post-mating day 25 (females with evidence of copulation) or post-cohabitation day 25 (females without evidence of copulation), the F_0 females which fail to deliver will be euthanized by carbon dioxide inhalation.~~ A gross necropsy examination will be performed and tissues will be preserved as described in Section 8.1. Organ weights will be collected as described in Section 8.2 with the exception of any ammonium sulfide stained uterus, which will be discarded. Uteri which appear nongravid by macroscopic examination will be opened and placed in a 10% ammonium sulfide solution (Salewski, 1964) for detection of early implantation loss.

7.11.1.3 Females with Total Litter Loss:

Females with total litter loss will be euthanized by carbon dioxide inhalation on the same day. The number of former implantation sites will be recorded and the number of corpora lutea (if litter loss occurs on or before PND 4) will be recorded. A gross necropsy examination will be performed and tissues preserved as described in Section 8.1. Organ weights will be collected as described in Section 8.2.

7.11.1.4 F_0 Deaths and Animals Euthanized *in Extremis*:

Females not surviving until the scheduled euthanasia will have a gross necropsy examination performed and tissues preserved as described in Section 8.1. Animals not expected to survive to the next observation period (moribund) will be euthanized by carbon

dioxide inhalation and have a gross necropsy examination performed and tissues preserved as described in Section 8.1. Organ weights will not be collected from found dead or euthanized *in extremis* females. The number and location of implantation sites or scars will be recorded for females dying or euthanized during gestation and lactation. The number of corpora lutea will be recorded for females dying or euthanized during gestation and up to and including lactation day 4. Uteri which appear nongravid by macroscopic examination will be opened and placed in a 10% ammonium sulfide solution (Salewski, 1964) for detection of early implantation loss.

Viable fetuses will be euthanized by an intrathoracic injection of sodium pentobarbital. Recognizable fetuses will be examined externally for gross abnormalities. Representative specimens with malformations may be preserved in 10% neutral-buffered formalin, at the discretion of the study director. For females found dead or euthanized *in extremis* during lactation, all pups will be examined externally and subjected to a necropsy examination according to Section 7.9.5.

7.11.2 Males:

Following completion of the mating period, all F_0 males will be euthanized by carbon dioxide inhalation and subjected to a gross necropsy and tissue preservation as described in Section 8.1. Organ weights will be collected as described in Section 8.2.

Males not surviving until the scheduled euthanasia will be subjected to a gross necropsy and tissue preservation as described in Section 8.1. Any males not expected to survive to the next observation period (moribund) will be euthanized by carbon dioxide inhalation and also necropsied and have tissues preserved as described in Section 8.1. Organ weights will not be collected.

7.12 F_1 Generation General Observations During The Experimental Period:

7.12.1 F_1 Clinical Observations:

Following weaning and selection, the mice will be observed twice daily for moribundity and mortality, once in the morning and once in the afternoon. ~~Clinical observations will be recorded daily~~A detailed physical examinations will be conducted weekly. Mortality and all signs of overt toxicity will be recorded on the day observed. The observations shall include, but are not limited to, evaluation for changes in

appearance of the skin and fur, eyes, mucous membranes, respiratory, circulatory, autonomic and central nervous system function, somatomotor activity and behavior patterns. All animals will also be observed on the day of necropsy and any findings will be recorded.

During the treatment period, each animal will be observed at approximately 1-2 hours following each dose administration for findings that are potentially related to treatment of that might change before the next scheduled observation. Additional post dosing observation periods may be necessary and will be documented in the study records.

7.12.2 F_1 Body Weights and Food Consumption:

F_1 males and females will be have a body weight recorded approximately weekly, beginning with the start of test ~~diet~~ substance administration until euthanasia (PND 21, 28, 35 and 40). All animals will have a final body weight recorded on the day of euthanasia.

F_1 males and females will have food consumption recorded individually on an approximately weekly basis beginning on PND 28 until euthanasia (PND 28, 35 and 40). Food consumption will not be collected from PND 21 to PND 28 during group housing for the F_1 males and females.

7.13 F_1 Postweaning Developmental Landmarks:

Offspring selected for the F_1 generation will be evaluated for attainment of the following landmarks of sexual maturity:

7.13.1 Balanopreputial Separation:

Each male pup will be observed for balanopreputial separation beginning on PND 25 as described by Korenbrot *et al.* (Korenbrot 1977). Examination of the males will continue daily until balanopreputial separation is present. The body weight of each male will be recorded on the day of attainment of balanopreputial separation.

7.13.2 Vaginal Patency:

Each female pup will be observed for vaginal patency beginning on PND 21 (only those selected for the F_1 generation) as described by Adams *et al.* (Adams 1985). Examination of the females will continue daily until vaginal patency is present. The body weight of each female will be recorded on the day of attainment of vaginal patency.

7.14 Euthanasia of F_1 Generation:

7.14.1 Scheduled Necropsy

On PND 40, all F_1 animals will be euthanized by carbon dioxide inhalation. A gross necropsy examination will be performed with an emphasis on evaluation of developmental morphology and organs of the reproductive system. Any gross lesions will be saved for possible future histopathological examination in 10% neutral buffered formalin.

7.14.2 Unscheduled Deaths or Animals Euthanized *in Extremis*

Any F_1 animals not surviving until the scheduled euthanasia or not expected to survive to the next observation period (euthanized by carbon dioxide inhalation) will be necropsied. A gross necropsy examination will be performed with an emphasis on evaluation of developmental morphology and organs of the reproductive system. Any gross lesions will be saved for possible future histopathological examination in 10% neutral buffered formalin.

7.15 Plasma Sample Collection and Analysis:

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7.15.1 Interval:

Blood samples will be collected at 2 hours post dose administration on LD 21 at necropsy from 5 randomly selected F_0 females per group that delivered. A blood sample will be collected from all females that failed to deliver on post-mating day 23 at the time of the scheduled necropsy (not timed).

In addition, all control females that delivered but were not selected for blood collection as indicated above, will have blood samples taken on LD 21 at the time of scheduled necropsy (not timed) to provide control animal plasma for method development work to be conducted by the Sponsor. These control samples will be processed and shipped as described for the study samples.

Blood samples will also be collected from the F_1 culled pups on PND 4 from 10 randomly chosen litters in each group following culling and data collection.

On PND 21, blood samples will be collected from 5 randomly selected F_1 males and females in each group at the time of the scheduled necropsy (not timed) that are not selected for the $_1$ generation.

On PND 40, blood samples will be collected at 2 hours dose administration at necropsy from 5 randomly selected F_1 males and females in each group.

7.15.2 Route of Collection:

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Blood samples will be collected via the vena cava following euthanasia by carbon dioxide inhalation from the F_0 females and the F_1 PND 21 and PND 40 animals.

Blood samples will be collected via decapitation from the PND 4 pups and pooled by litter.

7.15.3 Target Blood Volume:

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For the F_0 females and the F_1 PND 21 and PND 40 animals, 1.0 mL or as much as possible, will be collected into pre-chilled, uniquely-labeled tubes. For the PND 4 pups, blood will be pooled by litter from all the culled pups in each litter to obtain as much blood as possible.

7.15.4 Anticoagulant:

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K_3EDTA

7.15.5 Sample Handling and Plasma Preparation:

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Samples will be kept on wet ice, protected from light, until centrifugation. All samples will be centrifuged [approximately 3000 rpm (approximately 2060 x g) for approximately 10 min] at approximately 4°C. Plasma will be transferred into new, uniquely-labeled polypropylene tubes.

7.15.6 Label Information:

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Samples will include study number, dose group, animal number, interval, sample type and date and time of blood collection.

7.15.7 Storage:

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Plasma samples will be stored frozen at approximately -20°C until analysis. The time and date the samples were placed in the freezer will be recorded.

7.15.8 Sample Shipment:

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Frozen samples in dry ice, an inventory list and documentation of actual blood collection times for each animal will be shipped on the first Monday or Tuesday after the last sample is collected. The recipient will be notified at least 24 hours in advance of any shipment. Samples will be shipped overnight to:

Michael Mawn, PhD
Senior Research Chemist
DuPont Stine-Haskell Research Center
1090 Elkton Road
Bldg. S-315 Lab 1334
Newark, DE 19714-0030
Tel: 302-451-3365
Email: michael.p.mawn@usa.dupont.com

7.15.9 Plasma Analyses and Report:

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Plasma samples will be analyzed for the test article content after solvent protein precipitation with LC/MS/MS analysis. The method of analysis will be documented in the study records and final report. The Principal Investigator for the plasma analysis will be responsible for all bioanalytical delegated-phase activities and will issue a formal bioanalytical/plasma analyses report from the data generated that will be included as an appendix in the final report. A Quality Assurance and GLP compliance statement signed by Sponsor and archival location of the data will be provided to the WIL Study Director for inclusion in the Final Report.

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8 ANATOMIC PATHOLOGY:

8.1 Macroscopic Examination:

A complete necropsy will be conducted on all F_0 parental animals dying spontaneously, euthanized *in extremis* (by carbon dioxide inhalation) or at termination. This will include examination of the external surface, all orifices, the cranial cavity, the external surface of the brain and the thoracic, abdominal

and pelvic cavities including viscera. For F_0 females, the number of former implantation sites will be recorded.

At the time of necropsy, the following tissues and organs will be collected and placed in 10% neutral-buffered formalin (except as noted):

Coagulating gland	Prostate
Kidneys (2)	Seminal vesicles (2)
Liver	Testes with epididymides (2)[a]
Mammary gland (females only)	and vas deferens
Ovaries and oviduct (2)	Uterus[b] with cervix and vagina
Pituitary	All gross lesions[c]

a - Testes and epididymides will be fixed in Bouin's solution. Care will be taken to ensure separation between the left and right organs

b - Any uterus stained in 10% ammonium solution for detection of implantation sites will be discarded and will not be preserved in 10% neutral buffered formalin.

c - Representative sections of corresponding organs from a sufficient number of controls will be retained for comparison, if possible.

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8.2 Organ Weights:

The following organs will be weighed from all F_0 parental animals euthanized at scheduled termination. Organ-to-final-body weight and organ-to-brain weight ratios will be evaluated.

Brain	Ovaries (with oviducts)
Epididymides*	Pituitary
Kidneys	Testes*
Liver	

* - These paired organs will be weighed separately.

8.3 Microscopic Examination:

Microscopic examination of hematoxylin-eosin stained paraffin sections will be performed on the listed tissues from all F_0 parental animals from the control and high-dose groups and from all parental animals dying spontaneously or euthanized *in extremis* and from any animals in the low and mid dose groups with impaired fertility (males that did not sire a litter or females that did not deliver a litter). ~~Microscopic examination of hematoxylin-eosin stained paraffin sections will be performed on the following tissues from all F_0 parental animals from the control and high-dose groups and from all parental animals dying spontaneously or euthanized *in extremis*.~~ If a target organ is identified in the high-dose group, this organ will be examined from all animals in the low and mid-dose groups (at additional cost):

Cervix	Seminal vesicles

Coagulating gland	Testes
Epididymides	Uterus
Ovaries and oviduct	Vagina
Prostate	All gross (internal) lesions

The slides will be prepared by WIL Research Laboratories, LLC and then shipped to Sponsor at the address and contact below for examination by the Principal Investigator, Pathology.

Carolyn Lloyd
DuPont Haskell Global Centers for Health & Environmental Sciences
Investigative Sciences, S320/531
1090 Elkton Road
Newark, DE 19714-0050
Tel: 302-366-5401
Fax: 302-451-4530
Email: carolyn.w.lloyd@usa.dupont.com

The examination of the slides will be performed bythe Principal Investigator for Pathology. A final pathology report will be prepared and submitted to WIL Research for inclusion as an appendix in the main study final report. A Quality Assurance and GLP compliance statement signed by the performing laboratory will be provided to the WIL Study Director for inclusion in the Final Report. The Sponsor is responsible for archiving of raw data associated with the conduct of the pathological examination.

9 DURATION OF STUDY:

The two generations to be studied (parental animals and first generation offspring) will be termed F_0 and F_1, respectively. The conduct of this study will require approximately 22 weeks for acclimation, mating, gestation and lactation of the F_0 generation.

10 STATISTICAL METHODS:

All analyses will be two-tailed for significance levels of 5% and 1%. All means will be presented with standard deviations. All statistical tests will be performed by a computer with appropriate programming as referenced below. The litter, rather than the pup, will be considered as the experimental unit.

10.1 Parental In-Life Data:

Continuous data variables [mean body weights, body weight gains and food consumption at each interval], pre-coital intervals, gestation length, former implantation sites, unaccounted-for sites, mean days of attainment of

developmental landmarks (balanopreputial separation and vaginal patency) and the body weight on the day of attainment will be subjected to a parametric one-way analysis of variance (ANOVA) (Snedecor, 1980) to determine intergroup difference. If the results of the ANOVA are significant ($p<0.05$), Dunnett's test (Dunnett, 1964) will be applied to the data to compare the treated groups to the control group.

Male and female mating, fertility, copulation and conception indices of the treated groups will be compared to the control group using the Chi-square test with Yates' correction factor (Hollander, 1999).

10.2 Litter Data:

The mean litter proportions (% per litter) of pup viability during the postnatal period and sex ratio at birth will be subjected to the Kruskal-Wallis nonparametric ANOVA test (Kruskal, 1952) to determine intergroup difference. If the results of the ANOVA are significant ($p<0.05$), the Dunn's Test (Dunn, 1964) will be applied to compare the treated groups to the control group. Mean numbers of pups born, live litter size and litter weights will be subjected to the parametric ANOVA test (Snedecor, 1980) and Dunnett's test (Dunnett, 1964) as described above with the litter representing the experimental unit.

10.3 Histopathology and Organ Weight Data:

Histopathological findings of each treated group will be compared to those of the control group by the Fisher's Exact test (Steel, 1980). Organ weights (absolute and relative to body weights and relative to brain weights) will be subjected to a parametric ANOVA test (Snedecor, 1980) and Dunnett's test (1964) as described above.

11 QUALITY ASSURANCE:

The study will be audited by the WIL Quality Assurance Unit while in progress to assure compliance with the study protocol and protocol amendments, WIL Standard Operating Procedures and the appropriate provisions of EPA/TSCA and FIFRA Good Laboratory Practice Standards published in the Federal Register (40 CFR Part 792 and 40 CFR Part 160) and the OECD Principles of Good Laboratory Practice. The final report will be audited by the WIL Quality Assurance Unit prior to submission to the Sponsor Representative to assure that the final report accurately describes the conduct and the findings of the study.

The plasma samples analysis and the pathological examination of the slides will be conducted following the Standard Operating Procedures of the performing laboratory and in accordance with GLPs.~~The pathological examination of the slides will be conducted following the Standard Operating Procedures of the performing laboratory and in accordance with GLPs.~~ Quality Assurance monitoring of these analyses for SOP and GLP compliance is the responsibility of the performing laboratory. Inspection reports will be supplied to the Study Director. Upon completion of the prescribed activities and submission of the results to the Sponsor and Study Director the performing laboratory will provide a signed Quality Assurance Statement to the Sponsor (copy to the Study Director). The results will be included in the final report.

This study will be included on the WIL master list of regulated studies.

12 RECORDS TO BE MAINTAINED:

All original raw data records, as defined by WIL SOPs and the applicable GLPs, will be stored as described in Section 13 in the Archives at WIL Research Laboratories, LLC.

The Sponsor will be responsible for the archival of the raw data and records for the plasma sample analyses and the pathological examination.~~The Sponsor will be responsible for the archival of the raw data and records for the pathological examination.~~

13 WORK PRODUCT:

The Sponsor will have title to all documentation records, raw data, slides, specimens and other work product generated during the performance of the study. Any remaining plasma samples and formulation samples will be discarded after the issuance of the Final Report. ~~Any remaining formulation samples will be discarded after the issuance of the Final Report.~~ All work product, including raw paper data, pertinent electronic storage media and specimens, will be retained for a period of six months following issuance of the final report in the Archives at WIL Research Laboratories, LLC. Thereafter, WIL Research Laboratories, LLC will charge a monthly archiving fee for retention of all work product. All work product will be stored in compliance with regulatory requirements.

Any work product, including documents, specimens, and samples, that are required by this protocol, its amendments, or other written instructions of the Sponsor, to be shipped by WIL Research Laboratories, LLC to another location will be appropriately packaged and labeled as defined by WIL's SOPs and delivered to a common carrier for shipment. WIL Research Laboratories, LLC will not be responsible for shipment following delivery to the common carrier.

All work product generated at a performing laboratory will be retained at an appropriate archive facility as designated by the SOPs of the performing laboratory.

14 REPORTS:

The final report will contain a summary, test item data, methods and procedures, maternal and pup data WIL Historical Control Data, the analytical chemistry report, the plasma analysis report, the pathology report and an interpretation and discussion of the study results. ~~The final report will contain a summary, test item data, methods and procedures, maternal and pup data WIL Historical Control Data, the analytical chemistry report, pathology report and an interpretation and discussion of the study results.~~ The final report will be comprehensive and shall define level(s) inducing toxic effects as well as no-effect level(s) under the conditions of this investigation. The report will contain all information necessary to conform with current OPPTS and OECD specifications.

WIL Research Laboratories, LLC will submit one copy of an audited draft report in a timely manner upon completion of data collection prior to issuance of the final report. One revision will be permitted as part of the cost of the study, from which the Sponsor's reasonable revisions and suggestions will be incorporated into the final report, as appropriate. Additional changes or revisions may be made, at extra cost. It is expected that the Sponsor will review the draft report and provide comments to WIL Research Laboratories, LLC within a two-month time frame following submission. WIL Research Laboratories, LLC will submit the final report within one month following receipt of comments. If the Sponsor's comments and/or authorization to finalize the report have not been received at WIL Research Laboratories, LLC within one year following submission of the draft report, WIL Research Laboratories, LLC may elect to finalize the report following appropriate written notification to the Sponsor. Two electronic copies (PDF) of the final report on CD-R will be provided. Requests for paper copies of the final report may result in additional charges.

15 ANIMAL WELFARE ACT COMPLIANCE:

This study will comply with all applicable sections of the Final Rules of the Animal Welfare Act (AWA) regulations (9 CFR Parts 1, 2 and 3). The Sponsor should make particular note of the following:

The Sponsor Representative's signature on this protocol documents for the Study Director the Sponsor's assurance that the study described in this protocol does not unnecessarily duplicate previous experiments.

Whenever possible, procedures used in this study have been designed to avoid or minimize discomfort, distress or pain to animals. All methods are described in this study protocol or in written laboratory Standard Operating Procedures.

Animals that experience severe pain or distress that cannot be relieved will be painlessly euthanized as deemed appropriate by the veterinary staff and Study Director. The Sponsor will be advised by the Study Director of all circumstances which could lead to this action in as timely a manner as possible.

Methods of euthanasia used during this study are in conformance with the above-referenced regulation.

The Sponsor/Study Director has considered alternatives to procedures that may cause more than momentary or slight pain or distress to the animals and has provided a written narrative description (AWA covered species) of the methods and sources used to determine that alternatives are not available.

16 PROTOCOL MODIFICATION:

Modification of the protocol may be accomplished during the course of this investigation. However, no changes will be made in the study design without the verbal or written permission of the Sponsor. In the event that the Sponsor verbally requests or approves a change in the protocol, such changes will be made by appropriate documentation in the form of protocol amendment. All alterations of the protocol and reasons for the modification(s) will be signed by the Study Director and the Sponsor Representative.

17 REFERENCES:

Adams, J.; Buelke-Sam, J.; Kimmel, C.A.; Nelson, C.J.; Reiter, L.W.; Sobotka, T.J.; Tilson, H.A.; Nelson, B.K. Collaborative behavioral teratology study: protocol design and testing procedure. *Neurobehavioral Toxicology and Teratology* **1985,** *7,* 579-586.

Dawson, A.B. A note on the staining of the skeleton of cleared specimens with Alizarin Red S. *Stain Technology* **1926,** *1,* 123-124.

Dunn, O.J. Multiple comparisons using rank sums *Technometrics* **1964,** *6(3),* 241-252.

Dunnett, C.W. New tables for multiple comparisons with a control. *Biometrics* **1964,** *20,* 482-491

Haas, M. A 90-Day Oral (Gavage) Study of H-28548 in Rats with a 28-Day Recovery. WIL-189216, **Draft.**

Hollander, M.; Wolfe, D.A. *Nonparametric Statistical Methods,* 2nd ed.; Hollander, M., Wolfe, D.A., Eds.; John Wiley and Sons, Inc.: New York, NY, **1999;** p 468.

Korenbrot, C.C.; Huhtaniemi, I.T.; Weiner, R.W. Preputial separation as an external sign of pubertal development in the male rat. *Biology of Reproduction* **1977,** *17,* 298-303.

Kruskal, W.H.; Wallis, W.A. Use of ranks in one-criterion variance analysis. *Journal of the American Statistical Association* **1952,** *47,* 583-621.

Salewski, E. Färbemethode zum makroskopischen Nachweis von Implantationsstellen am Uterus der Ratte. [Staining method for a macroscopic test for implantation sites in the uterus of the rat]. *Naunyn - Schmiedebergs Archiv für Experimentelle Pathologie und Pharmakologie* **1964,** *247,* 367.

Snedecor, G.W.; Cochran, W.G. One Way Classifications; Analysis of Variance. In *Statistical Methods,* 7th ed.; The Iowa State University Press: Ames, IA, **1980;** pp 215-237.

Steel, R.G.D.; Torrie, J.H. *Principles and Procedures of Statistics, A Biometrical Approach,* 2nd ed.; McGraw-Hill Book Company: New York, NY, **1980;** pp 504-506.

Stuckhardt, J.L.; Poppe, S.M. Fresh visceral examination of rat and rabbit fetuses used in teratogenicity testing. *Teratogenesis, Carcinogenesis and Mutagenesis* **1984,** *4,* 181-188.

18 PROTOCOL APPROVAL:

Sponsor approval received via _____ on _____.
Date

E. I. du Pont de Nemours and Company

_____ _____
Susan M. Munley, MA Date
Sponsor Representative

WIL Research Laboratories, LLC

_____ _____
Tammye L. Edwards, BS, LAT Date
Study Director

_____ _____
Donald G. Stump, PhD, DABT Date
Director, Developmental and
Reproductive Toxicology

Subject: Fw: DuPont PFOA Replacement Permit
To: CN=Rose Allison/OU=DC/O=USEPA/C=US@EPA CN=Greg Fritz/OU=DC/O=USEPA/C=US@EPA CN=Laurence Libelo/OU=DC/O=USEPA/C=US@EPA
Cc:
From: CN=Toni Krasnic/OU=DC/O=USEPA/C=US
Submit Time: 2/8/2012 15:58:36

Non-CBI info on DuPont's C3 dimer.

Toni
564.0984
----- Forwarded by Toni Krasnic/DC/USEPA/US on 02/08/2012 10:56 AM -----

From: "Bilott, Robert A." <bilott@taftlaw.com>
To: Cathy Fehrenbacher/DC/USEPA/US@EPA, KarenD Johnson/R3/USEPA/US@EPA, Toni Krasnic/DC/USEPA/US@EPA
Date: 02/07/2012 10:23 AM
Subject: DuPont PFOA Replacement Permit

FYI

Taft /

Robert A. Bilott / Partner
Taft Stettinius & Hollister LLP
425 Walnut Street, Suite 1800
Cincinnati, Ohio 45202-3957
Tel: 513.381.2838 • Fax: 513.381.0205
Direct: 513.357.9638 • Cell: Personal Phone / Ex. 6
www.taftlaw.com / bilott@taftlaw.com

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west virginia department of environmental protection

Division of Water and Waste Management
601 57th Street SE
Charleston, WV 25304-2345
Telephone Number: (304) 926-0495
Fax Number: (304) 926-0463

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

January 31, 2012

Jim and Della Tennant
15 Mansion Blvd.
Parkersburg, WV 26101

CERTIFIED MAIL RETURN RECEIPT REQUESTED

Re: WV/NPDES Permit No. WV0001279
Consent Order No. 7418 Comments

Dear Mr. and Mrs. Tennant:

This correspondence is in response to your comment letter dated December 13, 2011 regarding draft Consent Order No. 7418 for WV/NPDES Permit No. WV0001279 issued to the Dupont - Washington Works facility. Comments are summarized first in bold italics followed by the agency's responses.

1. ***Comment: The order should not allow Dupont to discharge the new compound until all of the treatment upgrades are completed.***

   The existing treatment employed at the facility will provide treatment of the new compound. The additional treatment proposed by the permittee will enhance treatment and allow for less frequent change-outs of activated carbon from the existing carbon bed system. Regardless of the treatment enhancements to be made by the permittee, the effluent limitations for the new compound are effective immediately upon issuance of the consent order and will be protective of the water quality standards and designated uses of the Ohio River.

2. ***Comment: The order shouldn't be issued without explaining the new compound, its effects on people and the environment, its toxicity, and how the DEP arrived at the safety levels and monitoring requirements for the new compound.***

   The new compound (C3 Dimer Acid/Salt) is a new fluoropolymer compound that Dupont is representing as an ultimate replacement for the existing fluoropolymer known as C8 (or PFOA, perfluorooctanoic acid). Dupont entered into a Toxic Substances Control Act Consent (TSCA) Consent Order with the U.S. EPA in January 2009 which granted Dupont approval, under conditions set forth in the TSCA Consent Order, to manufacture, process, and distribute the new compound. The U.S. EPA TSCA Consent Order

prescribed certain requirements and toxicological studies regarding the new compound. In 2011, Dupont provided toxicological data to the WV DEP as well as plans to begin production of the new compound. As noted, the U.S. EPA TSCA Consent Order prescribes certain requirements on Dupont regarding the new compound and those requirements are required to be achieved independent of Consent Order No. 7418 that is proposed by the WV DEP. The WV DEP reviewed the toxicological information provided by Dupont regarding the new compound. Chronic studies which provide data regarding long-term impacts are still being conducted by Dupont on the new compound and are not yet complete. Although such long-term studies are preferable, toxicological data from shorter-term (e.g. subchronic) studies may be used to determine a suitable toxicity criterion, provided an additional safety factor is applied. Thus the agency utilized subchronic (90 day) data developed by DuPont in support of its PMN submission (subsequent to the 2009 TSCA Consent Order), incorporating appropriate safety/uncertainty factors, in order to calculate a risk-based Drinking Water Equivalent Level (DWEL) for the new compound. As a courtesy, the agency has attached a memo prepared by a WV DEP toxicologist which summarizes how the agency arrived at the risk-based DWEL. As the requisite chronic studies are completed in the future, the agency will revisit and revise, as necessary, the value indicated in the WV DEP Consent Order. However, based on the information provided and all other information available at this time, the WV DEP has determined that the requirements imposed will be protective of West Virginia's narrative water quality standards found in 47 CSR 2, Section 3 of the West Virginia Legislative Rules.

3. ***Comment: A public hearing is requested.***

   The agency received three (3) requests for a public hearing regarding the consent order. Based on the limited comments received by the agency and resultant limited requests for a public hearing, the agency has determined that a public hearing is not warranted.

The agency would like to thank you for taking the time to submit comments.

The Division of Water and Waste Management issued Consent Order No. 7418 on January 31, 2012. Thank you for your interest in this order.

Sincerely,

Scott G. Mandirola
Director

Encolsure

cc w/enclosure: U.S. EPA Region 3
Env. Inspector Supervisor
Env. Inspector

west virginia department of environmental protection

Office of Environmental Remediation
131A Peninsula Street
Wheeling, WV 26003
Phone: 304-238-1220/Fax: 304-238-1006

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

MEMORANDUM

To: Yogesh Patel
Matthew Sweeney

From: Lawrence P. Sirinek, Ph.D. LPS

Date: January 31, 2012

Subject: DuPont GenX Toxicity

CC: Pat Campbell
Scott Mandirola
Ken Ellison
Don Martin

I have completed my review of the documentation provided by DuPont regarding the toxicity of GenX Compound A and Compound B. As I requested redacted documents, the identities and chemical differences between the substances were not provided; however, most of the toxicological studies appear to involve compound B. For this reason I have focused my discussion on this compound. The relevance of the different compounds as they relate to permitted discharges should be clarified with DuPont.

With regard to ecological endpoints, I concur with the points provided in the documents provided by DuPont. Thus, 4.2 mg/L, reported as the 21 day NOEC (no observed effect concentration) for *Daphnia magna* seems to be an appropriate endpoint for use in determining discharge levels that would protect aquatic receptors.

With regard to human health effects, there were no data from chronic studies performed in either rats or primates contained in the material provided by DuPont. Chronic studies in both rats and mice are apparently ongoing, however data was not provided. While these data would be preferable, derivation of an appropriate toxicity criterion for human health can be based on a subchronic (90 day) study performed in rats. In this particular study, DuPont indicates a NOAEL (no observed adverse effect level) at 10 mg/kg/day, based on evidence of regenerative anemia in males at 100 mg/kg/d and females at 1000 mg/kg/d. Other effects were reported, but are likely attributable to mechanisms that are often considered irrelevant to potential human toxicity (e.g. PPARα agonists).

With regard to the NOAEL, it must be noted that male rats exposed at this concentration (10 mg/kg/day) did exhibit significant decreases in erythrocyte (red blood cell) counts, hematocrit, and hemoglobin levels that are also indicative of anemia. DuPont considers the anemia

described by these parameters as non-adverse in this group, since the animals lacked evidence of compensatory erythrocyte production (e.g. elevated reticulocyte counts). On the other hand, while the reticulocyte counts were not significantly elevated in this group, there was a clear, dose-dependent trend in the mean reticulocyte count at week 13. Unfortunately it cannot be determined whether continued dosing beyond this time point would have resulted in more dramatic indications of a compensatory response, or whether the impact was sufficiently limited at the 10 mg/kg/day dose, such that no compensatory response was needed. Absent more definitive data, the depressed red cell counts, hematocrit and hemoglobin levels should be sufficient to constitute a health-protective endpoint for purposes of assessing the potential impacts from chronic exposure to the test compound. Additional consideration should be made when results of the chronic study are provided.

On the basis of a revised NOAEL of 0.1 mg/kg/day, and applying relevant uncertainty factors for chronic to subchronic extrapolation (10) and rat to human extrapolation (10), the oral reference dose (RfD_O) = 0.001 mg/kg/day. Based upon this value, a reasonable risk-based drinking water equivalent level (DWEL) assuming total intake of the substance from a contaminated source would be 35µg/L. As discussed in subsequent communications, a source adjustment of 50% could reasonably be applied to this value to allow for potential intake from other sources. Use of this adjustment would result in a final DWEL of 18 µg/L. Based upon the information provided by DuPont, I believe this value would protect both human health and the environment.

I hope this discussion is helpful. Please contact me should you require further discussion or clarification.

Submit Time: 11/29/2011 17:41:58
From: CN=Laurence Libelo/OU=DC/O=USEPA/C=US
To: CN=Toni Krasnic/OU=DC/O=USEPA/C=US@EPA CN=Katherine Sleasman/OU=DC/O=USEPA/C=US@EPA
Cc:
Subject: Fw: From Ohio/West Virginia -- New DuPont/WVDEP Consent Order for New PFCs

Toni ,

This should go into the docket/. It is the first public release of the chemical identity that i know of.

Laurence
----- Forwarded by Laurence Libelo/DC/USEPA/US on 11/29/2011 12:36 PM -----

FYI

Taft /

Robert A. Bilott / Partner
Taft Stettinius & Hollister LLP
425 Walnut Street, Suite 1800
Cincinnati, Ohio 45202-3957
Tel: 513.381.2838 • Fax: 513.381.0205
Direct: 513.357.9638 • Cell: Personal Phone / Ex. 6
www.taftlaw.com / bilott@taftlaw.com

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-----Original Message-----
From: dep.online@wv.gov [mailto:dep.online@wv.gov]
Sent: Monday, November 28, 2011 10:10 AM
To: Bilott, Robert A.
Subject: DEP Public Notice - County - Wood - Applicant - E I DuPont De Nemours & Co - Application No. WV0001279

The following was sent to you because you are a
Member of the DEP Public Notice mailing list.
==========
Monday, November 28, 2011 @ 10:09 AM
==========

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER AND WASTE MANAGEMENT

PUBLIC NOTICE

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION'S, PUBLIC INFORMATION OFFICE, 601 57TH STREET SE, CHARLESTON, WEST VIRGINIA 25304-2345 TELEPHONE: (304) 926-0440.

INTENT TO ENTER AN ADMINISTRATIVE CONSENT ORDER UNDER THE WEST VIRGINIA WATER POLLUTION CONTROL ACT

Public Notice No.: L-136-11 Public Notice
Date: November 26, 2011

Paper: Parkersburg News

The following has been agreed to by The WV Department of Environmental Protection (WVDEP) and E I DuPont Nemours & Co. to the terms and conditions of a Consent Order for this facility or activity:

Permit No.: WV0001279

Order No: 7418

Permittee: E I DUPONT DE NEMOURS & CO
PO BOX 1217
WASHINGTON, WV 26181

Location: WASHINGTON, WOOD COUNTY

Latitude: 39:16:19 Longitude: 81:39:42

Receiving Stream:
OHIO RIVER

Activity:

The WV Department of Environmental Protection (WVDEP) and E I DuPont Nemours & Co. have proposed an Administrative Consent Order that will allow DuPont to begin construction activities in connection with necessary upgrades to the waste water treatment system and to commence commercial scale production using their new patented technology for a new processing aid for the production of high-performance fluoropolymers using a new compound.

Business conducted:

Production of polymer resins; compounded plastics; nylon fibers; formaldehyde; fluorocarbon polymers, monomers, telomers; and calcium fluoride.

Implementation:
Compliance shall be attained through the issuance of Order No. 7418, and any revisions, thereto.

On the basis of review of the materials, the "Water Pollution Control Act (Chapter 22, Article 11-8(a))," and the "West Virginia Legislative Rules," the State of West Virginia will act on the above action.

Any interested person may submit written comments on the draft Order and may request a public hearing by addressing such to the Director of the Division of Water and Waste Management within 30 days of the date of the public notice. Such comments or requests should be addressed to:
Director, Division of Water and Waste Management, DEP
ATTN: Lori Devereux, Permitting Section
601 57th Street SE
Charleston, WV 25304-2345

The public comment period begins November 26, 2011 ends December 26, 2011.

Comments received within this period will be considered prior to acting on the Order. Correspondence should include the name, address and the telephone number of the writer and a concise statement of the nature of the issues rose. The Director shall hold a public hearing whenever a finding is made, on the basis of requests, that there is a significant degree of public interest on issues relevant to the draft Order(s). Interested persons may contact the public information office to obtain further information.

The draft Order and any pertinent data may be inspected, by appointment, at the Division of Water and Waste Management Public Information Office, at 601 57th Street SE, Charleston, WV 25304-2345, between 8:00 a.m. and 4:00 p.m. on business days. Copies of the documents may be obtained from the Division at a nominal cost. Individuals requiring Telecommunication Device (TDD) may contact our agency by calling (304) 926-0493. Calls must be made 8:30 a.m. to 4:30 p.m. Monday through Friday.

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To view past notices of open public comment periods or to unsubscribe from this Mailing List, login at:
http://apps.dep.wv.gov//MLists2/

DuPont Final Version.pdf  DuPont Final Version.pdf

Submit Time: 11/18/2009 17:54:26
From: CN=Greg Schweer/OU=DC/O=USEPA/C=US
To: CN=Scott Sherlock/OU=DC/O=USEPA/C=US@EPA
Cc:
Subject: Fw: Form/Information for cbi authorization for conference call

Limited Permission to Disclose Draft 11.12.09.pdf Limited Permission to Disclose Draft 11.12.09.pdf

Greg Schweer
Chief, New Chemicals Management Branch
Chemical Control Division
U.S. EPA, Office of Pollution Prevention and Toxics
(202)564-8469
----- Forwarded by Greg Schweer/DC/USEPA/US on 11/18/2009 12:50 PM -----

From: Greg Schweer/DC/USEPA/US

To: Scott Sherlock/DC/USEPA/US@EPA

Cc: Rose Allison/DC/USEPA/US@EPA

Date: 11/18/2009 12:47 PM

Subject: Re: Fw: Form/Information for cbi authorization for conference call

---

Scott,

I do not have any problems with this disclosure statement. Do you?

I presume that if Dupont does use this form, then I can sign for EPA. Is that correct?

What, if anything, do we need to get in writing from WV or provide in writing to WV?

Greg Schweer
Chief, New Chemicals Management Branch
Chemical Control Division
U.S. EPA, Office of Pollution Prevention and Toxics
(202)564-8469

Rose Allison---11/16/2009 04:50:12 PM---This is what I got back from the Company. Any reactions? I need to compare it side-by-side with ou

From: Rose Allison/DC/USEPA/US

To: Greg Schweer/DC/USEPA/US@EPA, Scott Sherlock/DC/USEPA/US@EPA

Date: 11/16/2009 04:50 PM

Subject: Fw: Form/Information for cbi authorization for conference call

---

This is what I got back from the Company. Any reactions? I need to compare it side-by-side with our

draft. At first glance, it seems ok to me. There is no CBI in this document, although the Company has asked that since it's a draft document that we limit access so please do not forward. I'll keep a record. They're fine with using the email.

Rose Allison
Senior Specialist
New Chemicals Program
Chemical Control Division (7405M)
US EPA
1200 Pennsylvania Ave. NW
Washington, DC 20460
202/564-8970/FAX 202/564-9490

For Deliveries
EPA East Building
*1201 Constitution Ave NW
Room 4419H
Wash DC 20004

----- Forwarded by Rose Allison/DC/USEPA/US on 11/16/2009 04:43 PM -----

Limited Permission to Disclose Draft 11.12.09.doc Limited Permission to Disclose Draft 11.12.09.doc

Subject: Fw: New DuPont/WVDEP Consent Order for New PFCs
To: CN=Deborah Sherer/OU=DC/O=USEPA/C=US@EPA CN=David Tobias/OU=DC/O=USEPA/C=US@EPA CN=Charles Bevington/OU=DC/O=USEPA/C=US@EPA CN=Laurence Libelo/OU=DC/O=USEPA/C=US@EPA
Cc:
From: CN=Cathy Fehrenbacher/OU=DC/O=USEPA/C=US
Submit Time: 11/29/2011 16:15:37

See below, FYI

Cathy Fehrenbacher, CIH, Chief
Exposure Assessment Branch
USEPA/Office of Pollution Prevention and Toxics
1200 Pennsylvania Ave., N.W. (7406M)
Washington, DC 20460
Phone: 202-564-8551
Fax: 202-564-8892

Deliveries:
Room 5102A EPA East Building
1201 Constitution Avenue, N.W.
Washington, DC 20004
----- Forwarded by Cathy Fehrenbacher/DC/USEPA/US on 11/29/2011 11:15 AM -----

From: "Bilott, Robert A." <bilott@taftlaw.com>
To: Cathy Fehrenbacher/DC/USEPA/US@EPA, KarenD Johnson/R3/USEPA/US@EPA, Toni Krasnic/DC/USEPA/US@EPA
Date: 11/29/2011 10:01 AM
Subject: New DuPont/WVDEP Consent Order for New PFCs

FYI

Taft /

Robert A. Bilott / Partner
Taft Stettinius & Hollister LLP
425 Walnut Street, Suite 1800
Cincinnati, Ohio 45202-3957
Tel: 513.381.2838 • Fax: 513.381.0205
Direct: 513.357.9638 • Cell: Personal Phone / Ex. 6
www.taftlaw.com / bilott@taftlaw.com

###
-----Original Message-----
From: dep.online@wv.gov [mailto:dep.online@wv.gov]
Sent: Monday, November 28, 2011 10:10 AM
To: Bilott, Robert A.
Subject: DEP Public Notice - County - Wood - Applicant - E I DuPont De Nemours & Co - Application No. WV0001279

The following was sent to you because you are a
Member of the DEP Public Notice mailing list.
==========
Monday, November 28, 2011 @ 10:09 AM
==========

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER AND WASTE MANAGEMENT

PUBLIC NOTICE

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION'S, PUBLIC INFORMATION OFFICE, 601 57TH STREET SE, CHARLESTON, WEST VIRGINIA 25304-2345 TELEPHONE: (304) 926-0440.

INTENT TO ENTER AN ADMINISTRATIVE CONSENT ORDER UNDER THE WEST VIRGINIA WATER POLLUTION CONTROL ACT

Public Notice No.: L-136-11 Public Notice
Date: November 26, 2011

Paper: Parkersburg News

The following has been agreed to by The WV Department of Environmental Protection (WVDEP) and E I DuPont Nemours & Co. to the terms and conditions of a Consent Order for this facility or activity:

Permit No.: WV0001279

Order No: 7418

Permittee: E I DUPONT DE NEMOURS & CO
PO BOX 1217
WASHINGTON, WV 26181

Location: WASHINGTON, WOOD COUNTY

Latitude: 39:16:19 Longitude: 81:39:42

Receiving Stream:
OHIO RIVER

Activity:

The WV Department of Environmental Protection (WVDEP) and E I DuPont Nemours & Co. have proposed an Administrative Consent Order that will allow DuPont to begin construction activities in connection with necessary upgrades to the waste water treatment system and to commence commercial scale production using their new patented technology for a new processing aid for the production of high-performance fluoropolymers using a new compound.

Business conducted:

Production of polymer resins; compounded plastics; nylon fibers; formaldehyde; fluorocarbon polymers, monomers, telomers; and calcium fluoride.

Implementation:
Compliance shall be attained through the issuance of Order No. 7418, and any revisions, thereto.

On the basis of review of the materials, the "Water Pollution Control Act (Chapter 22, Article 11-8(a))," and the "West Virginia Legislative Rules," the State of West Virginia will act on the above action.

Any interested person may submit written comments on the draft Order and may request a public hearing by addressing such to the Director of the Division of Water and Waste Management within 30 days of the date of the public notice. Such comments or requests should be addressed to:
Director, Division of Water and Waste Management, DEP
ATTN: Lori Devereux, Permitting Section
601 57th Street SE
Charleston, WV 25304-2345

The public comment period begins November 26, 2011 ends December 26, 2011.

Comments received within this period will be considered prior to acting on the Order. Correspondence should include the name, address and the telephone number of the writer and a concise statement of the nature of the issues rose. The Director shall hold a public hearing whenever a finding is made, on the basis of requests, that there is a significant degree of public interest on issues relevant to the draft Order(s). Interested persons may contact the public information office to obtain further information.

The draft Order and any pertinent data may be inspected, by appointment, at the Division of Water and Waste Management Public Information Office, at 601 57th Street SE, Charleston, WV 25304-2345, between 8:00 a.m. and 4:00 p.m. on business days. Copies of the documents may be obtained from the Division at a nominal cost. Individuals requiring Telecommunication Device (TDD) may contact our agency by calling (304) 926-0493. Calls must be made 8:30 a.m. to 4:30 p.m. Monday through Friday.

==========

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DuPont Final Version.pdf  DuPont Final Version.pdf

Submit Time: 11/7/2008 23:50:35
From: CN=Jim Willis/OU=DC/O=USEPA/C=US
To: CN=Charles Auer/OU=DC/O=USEPA/C=US@EPA
Cc:
Subject: Re: Fw: Consent order expedite

I'm pretty sure we did these 2 at DDs last week, so it would surprise me if Rose has not already been in touch with the company. I'll give you an update early next week.

Charles Auer/DC/USEPA/US

Charles Auer/DC/USEPA/US

11/07/2008 04:42 PM

To Jim Willis/DC/USEPA/US

cc

Subject Fw: Consent order expedite

Jim
Let me know status. Thanks

Charles M Auer, Director
Office of Pollution Prevention and Toxics
U.S. EPA

Sent by EPA Wireless E-Mail Services

From: "Richard Holt" **Personal Address / Ex. 6**
Sent: 11/07/2008 04:28 PM EST
To: Charles Auer
Subject: Consent order expedite

Good day Charlie.

While in Paris I mentioned to you that anything that could be done to expedite completion of the Consent Order for the substances in our new MAN project would be very helpful. You asked that I send the specifics to you. Here they are:

Here's how the substances are identified. **EPA PMN case number P-08-508 and P-08-509.** If you need anything else - please let me know.

Thanks again for your help!

Rick

west virginia department of environmental protection

Division of Water and Waste Management
601 57th Street SE
Charleston, WV 25304-2345
Telephone Number: (304) 926-0495
Fax Number: (304) 926-0463

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

91 7108 2133 3939 2099 3082

CONSENT ORDER
ISSUED UNDER THE
WATER POLLUTION CONTROL ACT
WEST VIRGINIA CODE, CHAPTER 22, ARTICLE 11

TO: E. I. du Pont de Nemours and Company
Washington Works
c/o Karl J. Boelter, Plant Manager
P. O. Box 1217
Washington, WV 26181-1217

DATE: January 31, 2012

ORDER NO.: 7418

INTRODUCTION

This Consent Order is issued by the Director of the Division of Water and Waste Management, Department of Environmental Protection, (hereinafter, the "Director") under the authority of Chapter 22, Article 11, Section 1, *et. seq.* of the Code of West Virginia to E. I. du Pont de Nemours and Company (hereinafter "DuPont").

FINDINGS OF FACT

In support of this Order, the Director hereby finds the following:

1. DuPont operates a multiple product line manufacturing facility and associated industrial wastewater treatment plant located in Washington, Wood County, West Virginia. This facility is known as the Washington Works Plant ("Facility" or the "Plant").

2. This Facility is permitted under WV/NPDES Permit No. WV0001279 (the "Permit"), issued August 4, 2003 to authorize the Plant's point source discharges into the Ohio River or tributaries thereof.

3. In accordance with 47 CSR 10-4.3, DuPont timely applied for renewal of the Permit on December 20, 2007, over 180 days prior to the Permit's scheduled expiration date of June 30, 2008.

4. Since DuPont's submittal of its renewal application, WVDEP has administratively extended the Permit. As of the date of this Consent Order, the Permit remains administratively extended until December 31, 2011.

5. DuPont has developed patented technology for a new-generation processing aid for the production of high-performance fluoropolymers using a new compound C3 Dimer Acid/Salt (CAS # 13252-13-6 and CAS # 62037-80-3) (hereafter the "New Compound"). DuPont represents that this technology is a sustainable solution that includes a new processing aid with a favorable toxicological profile and rapid bioelimination. DuPont further represents that it will utilize environmental control technologies that reduce environmental release and exposure. The U.S. EPA, through a Toxic Substances Control Act Section 5(e) Consent Order ("TSCA Order") executed by DuPont on January 28, 2009, granted DuPont approval, under conditions set forth in the TSCA Order, to commercially manufacture, process, and distributes the processing aid. The TSCA Order requires that DuPont shall recover and capture (destroy) or recycle the New Compound "at an overall efficiency of 99% from all the effluent streams and the air emissions (point source and fugitive)." This requirement is interpreted by DuPont to be applied in the aggregate on an annual basis, for all U.S. sites where the New Compound is used. The wastewater treatment system for the Facility's fluoropolymers processes will be modified to achieve the TSCA Order requirements at present and future production capacity.

6. At this time, based on the results of its ongoing research and development activities, DuPont is planning to undertake construction of related upgrades to the Facility's wastewater treatment system for fluoropolymers processes currently discharging through internal Outlets 102 and 305, in conjunction with the use of the New Compound, and to commence the initial phase of commercial-scale production using the New Compound.

7. The planned upgrades to the fluoropolymers wastewater treatment system include new higher efficiency processing aid recovery, addition of a new reverse osmosis ("RO") system, and expansion of the existing carbon bed systems.

8. The Director cannot modify a WV/NPDES permit that has been administratively extended beyond its original expiration date. Accordingly, WVDEP cannot currently modify the Permit to authorize DuPont to scale up the use of the New Compound, to discharge the New Compound, and to undertake the related wastewater treatment plant upgrades described in Paragraphs 6-7, above.

9. DuPont provided toxicity data to WVDEP in March of 2011. Since that time, ongoing dialogue has occurred and additional information shared between the parties regarding the planned upgrades and the New Compound. On August 3, 2011, DuPont provided additional toxicological information as well as plans to begin production using the New Compound to the WVDEP.

10. The parties have entered into this Consent Order as the most expedient mechanism to allow DuPont to begin construction activities in connection with necessary upgrades to the wastewater treatment system and to commence commercial scale production using

the New Compound, as described in Paragraphs 5 and 6 above, pending the Director's renewal of the Permit. This Consent Order does not constitute and shall not be construed as a finding by the Director that DuPont has committed any violation(s) of the terms and conditions of the Permit.

ORDER FOR COMPLIANCE

Now, therefore, in accordance with Chapter 22, Article 11, Section 1 *et seq.* of the West Virginia Code, it is hereby ORDERED by the Director as follows:

1. DuPont shall undertake construction activities associated with the above-described wastewater treatment plant upgrades in accordance with the following schedule:

    a. Modifications to the Granular Mother Liquor ("GML")/Lamella system to achieve enhanced solids removal shall be initiated no later than six months after the effective date of this Consent Order.
    b. Construction of a new stage 1 RO unit with new membrane technology for enhanced processing aid recovery shall be initiated no later than 12 months after the effective date of this Consent Order.
    c. Sub-micron filtration and additional RO units for recovery of processing aid from previously non-recoverable process streams, and carbon beds for capture of processing aid shall be installed no later than 24 months after the effective date of this Consent Order.
    d. Additional carbon beds in W9 Line 1 for enhanced abatement capability when carbon change-outs occur shall be installed no later than 24 months after the effective date of this Consent Order.
    e. Connection of production areas to new recovery/abatement system as reflected in the permit application shall occur no later than 24 months after the effective date of this Consent Order.

2. During the period of transition to the new processing aid and treatment system upgrades, wastewaters from fluoropolymers processes covered by these changes shall continue to be treated by existing treatment facilities such that all wastestreams that are currently receiving treatment via activated carbon will continue to receive such treatment. DuPont has indicated that the New Compound will require more frequent change-outs of carbon in the carbon beds in order to maintain treatment removal efficiencies. DuPont shall replace the lead bed of granulated activated carbon within seven (7) days of detecting break-through of the New Compound from the lead bed while maintaining an effective polish bed in the system or cease discharge from the affected carbon bed system. Should monitoring detect break-through from the final polish bed, DuPont shall cease discharge from the affected carbon bed system within 24 hours of detecting such break-through until unspent carbon is in place to treat that wastestream. For purposes of this Consent Order, "break-through" will be deemed to have occurred when concentrations of the New Compound are detected at 1 mg/l or greater using the analytical method specified in Paragraph 5, below. This requirement shall apply to internal Outlets 102, 305 and a new internal monitoring location being designated as internal Outlet 605. Further, DuPont

shall operate and maintain the granulated activated carbon beds at internal Outlets 102, 305 and 605 in a manner to prevent the inhibition of treatment of other pollutants.

3. Based on the toxicological information provided and all other information available at this time, WVDEP has determined that a concentration of no more than 17.5 ug/l of the New Compound in the receiving stream outside of an applicable mixing zone will be protective of West Virginia's narrative water quality standards found in 47 CSR 2, Section 3 of the West Virginia Legislative Rules. To this end, WVDEP has established the discharge limitations for the New Compound as set out in Paragraph 4, below.

4. DuPont shall adhere to the following limitations and perform the following self-monitoring for the New Compound during the term of this Order in accordance with the following:

Outlet	Monthly Average	Maximum Daily	Units	Monitoring Frequency	Sample Type
102[A]	Monitor	Monitor	ug/l	1/day[D]	Grab
102[B]	Monitor	Monitor	ug/l	1/week[D]	Grab
305[A]	Monitor	Monitor	ug/l	1/day[D]	Grab
305[B]	Monitor	Monitor	ug/l	1/week[D]	Grab
605[A,C]	Monitor	Monitor	ug/l	1/day[D]	Grab
605[B,C]	Monitor	Monitor	ug/l	1/week[D]	Grab
002	77[E]	112[E]	ug/l	1/week	24-hour Composite
005	191[E]	278[E]	ug/l	1/week	24-hour Composite

[A] Monitoring location after exiting lead activated carbon bed and prior to entering polish activated carbon bed.
[B] Monitoring location after exiting the polish activated carbon bed.
[C] Discharge from carbon treatment system located in building 127.
[D] When discharging.
[E] As discussed in Paragraph 3, above, these limits have been calculated to ensure a concentration of no more than 17.5 ug/l in the receiving stream outside of the applicable mixing zone, as determined by application of the mixing zone dilution factor for the respective outlet specified in the current Fact Sheet for the Permit.

5. Samples taken at Outlets 002 and 005 pursuant to Paragraph 4 above shall be analyzed by Liquid Chromatography/Mass Spectrometry/Mass Spectrometry ("LC/MS/MS") with a method detection limit ("MDL") of 1 ug/l or less. Samples taken at internal Outlets 102, 305 and 605 pursuant to Paragraph 4 above shall be analyzed by Liquid Chromatography ("LC") or Gas Chromatography ("GC") per internal plant method with an MDL of 1 mg/l or less.

6. Outlet results for sampling performed pursuant to Paragraph 4 above shall be reported monthly to the WVDEP on the attached Discharge Monitoring Reports ("DMRs"). In addition, DuPont shall maintain a log of the results of the daily monitoring required by Paragraph 4 at internal Outlets 102, 305 and 605, and shall submit this log to WVDEP on a monthly basis as an attachment to its DMR.

7. Commercial production using the New Compound and generating wastewaters for on-site treatment may commence upon the execution of this Order, subject to compliance with the provisions of this Order.

8. This Consent Order may be reopened and revised by agreement of the parties to prescribe additional and/or different requirements, including different monitoring requirements and/or increased or decreased discharge limitations, pursuant to any new information or data regarding the New Compound.

9. This Order shall terminate upon notification by DuPont that the actions required by the Order of Compliance have been completed and the Director's written concurrence therewith or upon the issuance by WVDEP of a renewed permit for the Facility that authorizes the activities covered by this Order that have not been completed as of that time, whichever occurs earlier.

OTHER PROVISIONS

1. DuPont hereby waives its right to appeal this Order under the provisions of Chapter 22, Article 11, Section 21 of the Code of West Virginia. Under this Order, DuPont agrees to take all actions required by the terms and conditions of this Order and consents to and will not contest the Director's jurisdiction regarding this Order. However, DuPont does not admit to any factual and legal determinations made by the Director and reserves all rights and defenses available regarding liability or responsibility in any proceedings regarding DuPont other than proceedings, administrative or civil, to enforce this Order.

2. If any event occurs which causes delay in the achievement of the requirements of this Order, DuPont shall have the burden of proving that the delay was caused by circumstances beyond its reasonable control which could not have been overcome by due diligence (i.e., force majeure). Force majeure shall not include delays caused or contributed to by the lack of sufficient funding. Within three (3) working days after DuPont becomes aware of such a delay, DuPont shall provide written notification to the Director. Within ten (10) working days of initial notification, DuPont shall submit a detailed written explanation of the anticipated length and cause of the delay, the measures taken and/or to be taken to prevent or minimize the delay, and a timetable by which DuPont intends to implement these measures. If the Director agrees that the delay has been or will be caused by circumstances beyond the reasonable control of DuPont (i.e., force majeure), the time for performance hereunder shall be extended for a period of time equal to the delay resulting from such circumstances. A force majeure amendment

granted by the Director shall be considered a binding extension of this Order and of the requirements herein. The determination of the Director shall be final and not subject to appeal.

3. Compliance with the terms and conditions of this Order shall not in any way be construed as relieving DuPont of the obligation to comply with any applicable law, permit, other order, or any other requirement otherwise applicable. Violations of the terms and conditions of this Order may subject DuPont to additional penalties and injunctive relief in accordance with the applicable law.

4. The provisions of this Order are severable and should a court or board of competent jurisdiction declare any provisions to be invalid or unenforceable, all other provisions shall remain in full force and effect.

5. This Order is binding on DuPont, its successors and assigns.

This Order shall become effective upon the date on which a true and correct copy of this fully executed Order is received by DuPont.

Karl J. Boelter, Plant Manager
Washington Works
E. I. du Pont de Nemours and Company

11/18/11
Date

Public Notice begin: November 26, 2012
Date

Public Notice end: December 26, 2012
Date

Scott G. Mandirola, Director
Division of Water and Waste Management
West Virginia Department of Environmental Protection

1/31/2012
Date

SGM:rt/mls

Enclosure(s)
cc: Environmental Inspector
Environmental Inspector Supervisor
EPA Region III

west virginia department of environmental protection

Division of Water and Waste Management
601 57th Street SE
Charleston, WV 25304-2345
Telephone Number: (304) 926-0495
Fax Number: (304) 926-0463

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

CONSENT ORDER
ISSUED UNDER THE
WATER POLLUTION CONTROL ACT
WEST VIRGINIA CODE, CHAPTER 22, ARTICLE 11

TO: E. I. du Pont de Nemours and Company
Washington Works
c/o Karl J. Boelter, Plant Manager
P. O. Box 1217
Washington, WV 26181-1217

DATE: January 31, 2012

ORDER NO.: 7418

INTRODUCTION

This Consent Order is issued by the Director of the Division of Water and Waste Management, Department of Environmental Protection, (hereinafter, the "Director") under the authority of Chapter 22, Article 11, Section 1, *et. seq.* of the Code of West Virginia to E. I. du Pont de Nemours and Company (hereinafter "DuPont").

FINDINGS OF FACT

In support of this Order, the Director hereby finds the following:

1. DuPont operates a multiple product line manufacturing facility and associated industrial wastewater treatment plant located in Washington, Wood County, West Virginia. This facility is known as the Washington Works Plant ("Facility" or the "Plant").

2. This Facility is permitted under WV/NPDES Permit No. WV0001279 (the "Permit"), issued August 4, 2003 to authorize the Plant's point source discharges into the Ohio River or tributaries thereof.

3. In accordance with 47 CSR 10-4.3, DuPont timely applied for renewal of the Permit on December 20, 2007, over 180 days prior to the Permit's scheduled expiration date of June 30, 2008.

4. Since DuPont's submittal of its renewal application, WVDEP has administratively extended the Permit. As of the date of this Consent Order, the Permit remains administratively extended until December 31, 2011.

5. DuPont has developed patented technology for a new-generation processing aid for the production of high-performance fluoropolymers using a new compound C3 Dimer Acid/Salt (CAS # 13252-13-6 and CAS # 62037-80-3) (hereafter the "New Compound"). DuPont represents that this technology is a sustainable solution that includes a new processing aid with a favorable toxicological profile and rapid bioelimination. DuPont further represents that it will utilize environmental control technologies that reduce environmental release and exposure. The U.S. EPA, through a Toxic Substances Control Act Section 5(e) Consent Order ("TSCA Order") executed by DuPont on January 28, 2009, granted DuPont approval, under conditions set forth in the TSCA Order, to commercially manufacture, process, and distributes the processing aid. The TSCA Order requires that DuPont shall recover and capture (destroy) or recycle the New Compound "at an overall efficiency of 99% from all the effluent streams and the air emissions (point source and fugitive)." This requirement is interpreted by DuPont to be applied in the aggregate on an annual basis, for all U.S. sites where the New Compound is used. The wastewater treatment system for the Facility's fluoropolymers processes will be modified to achieve the TSCA Order requirements at present and future production capacity.

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10. The parties have entered into this Consent Order as the most expedient mechanism to allow DuPont to begin construction activities in connection with necessary upgrades to the wastewater treatment system and to commence commercial scale production using

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ORDER FOR COMPLIANCE

Now, therefore, in accordance with Chapter 22, Article 11, Section 1 *et seq.* of the West Virginia Code, it is hereby ORDERED by the Director as follows:

1. DuPont shall undertake construction activities associated with the above-described wastewater treatment plant upgrades in accordance with the following schedule:

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    e. Connection of production areas to new recovery/abatement system as reflected in the permit application shall occur no later than 24 months after the effective date of this Consent Order.

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3. Based on the toxicological information provided and all other information available at this time, WVDEP has determined that a concentration of no more than 17.5 ug/l of the New Compound in the receiving stream outside of an applicable mixing zone will be protective of West Virginia's narrative water quality standards found in 47 CSR 2, Section 3 of the West Virginia Legislative Rules. To this end, WVDEP has established the discharge limitations for the New Compound as set out in Paragraph 4, below.

4. DuPont shall adhere to the following limitations and perform the following self-monitoring for the New Compound during the term of this Order in accordance with the following:

Outlet	Monthly Average	Maximum Daily	Units	Monitoring Frequency	Sample Type
102[A]	Monitor	Monitor	ug/l	1/day[D]	Grab
102[B]	Monitor	Monitor	ug/l	1/week[D]	Grab
305[A]	Monitor	Monitor	ug/l	1/day[D]	Grab
305[B]	Monitor	Monitor	ug/l	1/week[D]	Grab
605[A,C]	Monitor	Monitor	ug/l	1/day[D]	Grab
605[B,C]	Monitor	Monitor	ug/l	1/week[D]	Grab
002	77[E]	112[E]	ug/l	1/week	24-hour Composite
005	191[E]	278[E]	ug/l	1/week	24-hour Composite

[A] Monitoring location after exiting lead activated carbon bed and prior to entering polish activated carbon bed.
[B] Monitoring location after exiting the polish activated carbon bed.
[C] Discharge from carbon treatment system located in building 127.
[D] When discharging.
[E] As discussed in Paragraph 3, above, these limits have been calculated to ensure a concentration of no more than 17.5 ug/l in the receiving stream outside of the applicable mixing zone, as determined by application of the mixing zone dilution factor for the respective outlet specified in the current Fact Sheet for the Permit.

5. Samples taken at Outlets 002 and 005 pursuant to Paragraph 4 above shall be analyzed by Liquid Chromatography/Mass Spectrometry/Mass Spectrometry ("LC/MS/MS") with a method detection limit ("MDL") of 1 ug/l or less. Samples taken at internal Outlets 102, 305 and 605 pursuant to Paragraph 4 above shall be analyzed by Liquid Chromatography ("LC") or Gas Chromatography ("GC") per internal plant method with an MDL of 1 mg/l or less.

6. Outlet results for sampling performed pursuant to Paragraph 4 above shall be reported monthly to the WVDEP on the attached Discharge Monitoring Reports ("DMRs"). In addition, DuPont shall maintain a log of the results of the daily monitoring required by Paragraph 4 at internal Outlets 102, 305 and 605, and shall submit this log to WVDEP on a monthly basis as an attachment to its DMR.

7. Commercial production using the New Compound and generating wastewaters for on-site treatment may commence upon the execution of this Order, subject to compliance with the provisions of this Order.

8. This Consent Order may be reopened and revised by agreement of the parties to prescribe additional and/or different requirements, including different monitoring requirements and/or increased or decreased discharge limitations, pursuant to any new information or data regarding the New Compound.

9. This Order shall terminate upon notification by DuPont that the actions required by the Order of Compliance have been completed and the Director's written concurrence therewith or upon the issuance by WVDEP of a renewed permit for the Facility that authorizes the activities covered by this Order that have not been completed as of that time, whichever occurs earlier.

OTHER PROVISIONS

1. DuPont hereby waives its right to appeal this Order under the provisions of Chapter 22, Article 11, Section 21 of the Code of West Virginia. Under this Order, DuPont agrees to take all actions required by the terms and conditions of this Order and consents to and will not contest the Director's jurisdiction regarding this Order. However, DuPont does not admit to any factual and legal determinations made by the Director and reserves all rights and defenses available regarding liability or responsibility in any proceedings regarding DuPont other than proceedings, administrative or civil, to enforce this Order.

2. If any event occurs which causes delay in the achievement of the requirements of this Order, DuPont shall have the burden of proving that the delay was caused by circumstances beyond its reasonable control which could not have been overcome by due diligence (i.e., force majeure). Force majeure shall not include delays caused or contributed to by the lack of sufficient funding. Within three (3) working days after DuPont becomes aware of such a delay, DuPont shall provide written notification to the Director. Within ten (10) working days of initial notification, DuPont shall submit a detailed written explanation of the anticipated length and cause of the delay, the measures taken and/or to be taken to prevent or minimize the delay, and a timetable by which DuPont intends to implement these measures. If the Director agrees that the delay has been or will be caused by circumstances beyond the reasonable control of DuPont (i.e., force majeure), the time for performance hereunder shall be extended for a period of time equal to the delay resulting from such circumstances. A force majeure amendment

granted by the Director shall be considered a binding extension of this Order and of the requirements herein. The determination of the Director shall be final and not subject to appeal.

3. Compliance with the terms and conditions of this Order shall not in any way be construed as relieving DuPont of the obligation to comply with any applicable law, permit, other order, or any other requirement otherwise applicable. Violations of the terms and conditions of this Order may subject DuPont to additional penalties and injunctive relief in accordance with the applicable law.

4. The provisions of this Order are severable and should a court or board of competent jurisdiction declare any provisions to be invalid or unenforceable, all other provisions shall remain in full force and effect.

5. This Order is binding on DuPont, its successors and assigns.

This Order shall become effective upon the date on which a true and correct copy of this fully executed Order is received by DuPont.

Karl J. Boelter, Plant Manager
Washington Works
E. I. du Pont de Nemours and Company

11/18/11
Date

Public Notice begin: November 26, 2012
Date

Public Notice end: December 26, 2012
Date

Scott G. Mandirola, Director
Division of Water and Waste Management
West Virginia Department of Environmental Protection

1/31/2012
Date

SGM:rt/mls

Enclosure(s)
cc: Environmental Inspector
Environmental Inspector Supervisor
EPA Region III

WRD 2A-82

STATE OF WEST VIRGINIA
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT

Final Order Limitations
Year Round

FACILITY NAME: (WASHINGTON WORKS) E I DUPONT DE NEMOURS & CO
LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 002
WASTELOAD FOR THE MONTH OF:

CERTIFIED LABORATORY NAME:
CERTIFIED LABORATORY ADDRESS:
INDIVIDUAL PERFORMING ANALYSIS:

Parameter		Quantity		Units	N.E.	Other Units			CEL*	Units	N.E.	Measurement Frequency	Sample Type
50050 (ML-1) RF-A	Reported												
Flow,in Conduit or thru plant	Permit Limits	N/A	N/A			N/A	15.4 Avg. Monthly	15.9 Max. Daily	N/A	mgd		1/week	measured
Year Round													
00310 (ML-1) RF-A	Reported												
BOD, 5-Day 20 Deg.C	Permit Limits	632 Avg. Monthly	1681 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	mg/l		1/week	24 hr Composite
Year Round													
00530 (ML-2) RF-A	Reported												
Total Suspended Solids	Permit Limits	1879 Avg. Monthly	5112 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	mg/l		1/week	24 hr Composite
Year Round													
00530 (ML-1) RF-A	Reported												
Total Suspended Solids	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	mg/l		1/week	24 hr Composite
Year Round													
00400 (ML-1) RF-A	Reported												
pH	Permit Limits	N/A	N/A			Rpt Only Inst. Min.	N/A	Rpt Only Inst. Max.	N/A	S.U.		Continuous	Recorded
Year Round													
00610 (ML-1) RF-A	Reported												
Ammonia Nitrogen	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	mg/l		1/week	24 hr Composite
Year Round													
50060 (ML-1) RF-A	Reported												
Chlorine, Total Residual	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	39 Avg. Monthly	79 Max. Daily	100	ug/l		1/week	Grab
Year Round													
00940 (ML-1) RF-A	Reported												
Chloride (as Cl)	Permit Limits	48000 Avg. Monthly	72000 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	mg/l		1/week	24 hr Composite
Year Round													

* CEL = Compliance Evaluation Level

Name of Principal Executive Officer	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of a fine and imprisonment for knowing violations.	Date Completed
Title of Officer		Signature of Principal Executive Officer or Authorized Agent

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WRD 2A-82

STATE OF WEST VIRGINIA
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT

Final Order Limitations
Year Round

FACILITY NAME: (WASHINGTON WORKS) E I DUPONT DE NEMOURS & CO
LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 002
WASTELOAD FOR THE MONTH OF:

CERTIFIED LABORATORY NAME:
CERTIFIED LABORATORY ADDRESS:
INDIVIDUAL PERFORMING ANALYSIS:

Parameter		Quantity		Units	N.E.	Other Units			CEL*	Units	N.E.	Measurement Frequency	Sample Type
34423 (ML-1) RF-A	Reported												
Methylene Chloride	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		1/month	Grab
Year Round													
82581 (ML-1) RF-A	Reported												
pH, No. of Excursions >60 min.	Permit Limits	N/A	0 Max. Daily	Ocur/Mon		N/A	N/A	N/A	N/A			Continuous	Continuous
Year Round													
82582 (ML-1) RF-A	Reported												
pH Excursions Total Time	Permit Limits	N/A	N/A			N/A	N/A	446 Monthly Total	N/A	Minutes		Continuous	Continuous
Year Round													
39175 (ML-1) RF-G	Reported												
Vinyl Chloride	Permit Limits	2.66 Avg. Monthly	4.72 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													
39180 (ML-1) RF-B	Reported												
Trichloroethylene	Permit Limits	0.71 Avg. Monthly	1.89 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		1/quarter	Grab
Year Round													
39700 (ML-1) RF-G	Reported												
Hexachlorobenzene	Permit Limits	5.38 Avg. Monthly	21.79 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34030 (ML-1) RF-G	Reported												
Benzene	Permit Limits	1.56 Avg. Monthly	3.68 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													
34571 (ML-1) RF-G	Reported												
1,4-Dichlorobenzene	Permit Limits	3.9 Avg. Monthly	10.43 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													

* CEL = Compliance Evaluation Level

Name of Principal Executive Officer	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of a fine and imprisonment for knowing violations.	Date Completed
Title of Officer		Signature of Principal Executive Officer or Authorized Agent

ED_002003H_00001250-00008

WRD 2A-82

STATE OF WEST VIRGINIA
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT

Final Order Limitations
Year Round

FACILITY NAME: (WASHINGTON WORKS) E I DUPONT DE NEMOURS & CO
LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 002
WASTELOAD FOR THE MONTH OF:

CERTIFIED LABORATORY NAME:
CERTIFIED LABORATORY ADDRESS:
INDIVIDUAL PERFORMING ANALYSIS:

Parameter		Quantity		Units	N.E.	Other Units			CEL*	Units	N.E.	Measurement Frequency	Sample Type
34591 (ML-1) RF-G	Reported												
2-Nitrophenol	Permit Limits	1.78 Avg. Monthly	6.34 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34616 (ML-1) RF-G	Reported												
2,4-Dinitrophenol	Permit Limits	33.12 Avg. Monthly	117.75 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34646 (ML-1) RF-G	Reported												
4-Nitrophenol	Permit Limits	4.45 Avg. Monthly	15.81 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34657 (ML-1) RF-G	Reported												
4,6-Dinitro-o-cresol	Permit Limits	2.14 Avg. Monthly	7.6 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34469 (ML-1) RF-G	Reported												
Pyrene	Permit Limits	0.55 Avg. Monthly	1.32 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34475 (ML-1) RF-G	Reported												
Tetrachloroethylene	Permit Limits	1.43 Avg. Monthly	4.5 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													
34496 (ML-1) RF-G	Reported												
1,1 Dichloroethane	Permit Limits	0.6 Avg. Monthly	1.62 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													
34501 (ML-1) RF-G	Reported												
1,1-Dichloroethylene	Permit Limits	0.6 Avg. Monthly	1.65 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													

* CEL = Compliance Evaluation Level

Name of Principal Executive Officer	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of a fine and imprisonment for knowing violations.	Date Completed
Title of Officer		Signature of Principal Executive Officer or Authorized Agent

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WRD 2A-82

STATE OF WEST VIRGINIA
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT

Final Order Limitations
Year Round

FACILITY NAME: (WASHINGTON WORKS) E I DUPONT DE NEMOURS & CO
LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 002
WASTELOAD FOR THE MONTH OF:

CERTIFIED LABORATORY NAME:
CERTIFIED LABORATORY ADDRESS:
INDIVIDUAL PERFORMING ANALYSIS:

Parameter		Quantity		Units	N.E.	Other Units			CEL*	Units	N.E.	Measurement Frequency	Sample Type
34526 (ML-1) RF-G	Reported												
Benzo (A) Anthracene	Permit Limits	0.52	1.29	Lbs/Day		N/A	Rpt Only	Rpt Only	N/A	ug/l		Once/5 years	24 hr
Year Round		Avg. Monthly	Max. Daily				Avg. Monthly	Max. Daily					Composite
34536 (ML-1) RF-G	Reported												
1,2-Dichlorobenzene	Permit Limits	5.38	21.7	Lbs/Day		N/A	Rpt Only	Rpt Only	N/A	ug/l		Once/5 years	24 hr
Year Round		Avg. Monthly	Max. Daily				Avg. Monthly	Max. Daily					Composite
34546 (ML-1) RF-G	Reported												
1,2-Trans-Dichloroethylene	Permit Limits	0.69	1.81	Lbs/Day		N/A	Rpt Only	Rpt Only	N/A	ug/l		Once/5 years	Grab
Year Round		Avg. Monthly	Max. Daily				Avg. Monthly	Max. Daily					
34551 (ML-1) RF-G	Reported												
1,2,4-Trichlorobenzene	Permit Limits	5.38	21.79	Lbs/Day		N/A	Rpt Only	Rpt Only	N/A	ug/l		Once/5 years	24 hr
Year Round		Avg. Monthly	Max. Daily				Avg. Monthly	Max. Daily					Composite
34566 (ML-1) RF-G	Reported												
1,3-Dichlorobenzene	Permit Limits	3.9	10.43	Lbs/Day		N/A	Rpt Only	Rpt Only	N/A	ug/l		Once/5 years	24 hr
Year Round		Avg. Monthly	Max. Daily				Avg. Monthly	Max. Daily					Composite
34320 (ML-1) RF-G	Reported												
Chrysene	Permit Limits	0.52	1.29	Lbs/Day		N/A	Rpt Only	Rpt Only	N/A	ug/l		Once/5 years	24 hr
Year Round		Avg. Monthly	Max. Daily				Avg. Monthly	Max. Daily					Composite
34336 (ML-1) RF-G	Reported												
Diethyl Phthalate	Permit Limits	1.26	3.1	Lbs/Day		N/A	Rpt Only	Rpt Only	N/A	ug/l		Once/5 years	24 hr
Year Round		Avg. Monthly	Max. Daily				Avg. Monthly	Max. Daily					Composite
34341 (ML-1) RF-G	Reported												
Dimethyl Phthalate	Permit Limits	0.52	1.29	Lbs/Day		N/A	Rpt Only	Rpt Only	N/A	ug/l		Once/5 years	24 hr
Year Round		Avg. Monthly	Max. Daily				Avg. Monthly	Max. Daily					Composite

* CEL = Compliance Evaluation Level

Name of Principal Executive Officer	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of a fine and imprisonment for knowing violations.	Date Completed
Title of Officer		Signature of Principal Executive Officer or Authorized Agent

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WRD 2A-82

STATE OF WEST VIRGINIA
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT

Final Order Limitations
Year Round

FACILITY NAME: (WASHINGTON WORKS) E I DUPONT DE NEMOURS & CO
LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 002
WASTELOAD FOR THE MONTH OF:

CERTIFIED LABORATORY NAME:
CERTIFIED LABORATORY ADDRESS:
INDIVIDUAL PERFORMING ANALYSIS:

Parameter		Quantity		Units	N.E.	Other Units			CEL*	Units	N.E.	Measurement Frequency	Sample Type
34376 (ML-1) RF-G	Reported												
Fluoranthene	Permit Limits	0.6 Avg. Monthly	1.48 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34381 (ML-1) RF-G	Reported												
Fluorene	Permit Limits	0.52 Avg. Monthly	1.29 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34396 (ML-1) RF-G	Reported												
Hexachloroethane	Permit Limits	5.38 Avg. Monthly	21.79 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34418 (ML-1) RF-A	Reported												
Methyl Chloride	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		1/month	Grab
Year Round													
34447 (ML-1) RF-G	Reported												
Nitrobenzene	Permit Limits	61.39 Avg. Monthly	175.68 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34461 (ML-1) RF-G	Reported												
Phenanthrene	Permit Limits	0.52 Avg. Monthly	1.29 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34200 (ML-1) RF-G	Reported												
Acenaphthylene	Permit Limits	0.52 Avg. Monthly	1.29 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34205 (ML-1) RF-G	Reported												
Acenaphthene	Permit Limits	0.52 Avg. Monthly	1.29 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													

* CEL = Compliance Evaluation Level

Name of Principal Executive Officer	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of a fine and imprisonment for knowing violations.	Date Completed
Title of Officer		Signature of Principal Executive Officer or Authorized Agent

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WRD 2A-82

STATE OF WEST VIRGINIA
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT

Final Order Limitations
Year Round

FACILITY NAME: (WASHINGTON WORKS) E I DUPONT DE NEMOURS & CO
LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 002
WASTELOAD FOR THE MONTH OF:

CERTIFIED LABORATORY NAME:
CERTIFIED LABORATORY ADDRESS:
INDIVIDUAL PERFORMING ANALYSIS:

Parameter		Quantity		Units	N.E.	Other Units			CEL*	Units	N.E.	Measurement Frequency	Sample Type
34215 (ML-1) RF-G	Reported												
Acrylonitrile	Permit Limits	2.58 Avg. Monthly	6.37 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													
34220 (ML-1) RF-G	Reported												
Anthracene	Permit Limits	0.52 Avg. Monthly	1.29 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34242 (ML-1) RF-G	Reported												
Benzo (K) Fluoranthene	Permit Limits	0.52 Avg. Monthly	1.29 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34247 (ML-1) RF-G	Reported												
Benzo (A) Pyrene	Permit Limits	0.55 Avg. Monthly	1.32 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34301 (ML-1) RF-G	Reported												
Chlorobenzene	Permit Limits	3.9 Avg. Monthly	10.43 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													
34506 (ML-1) RF-G	Reported												
1,1,1-Trichloroethane	Permit Limits	0.6 Avg. Monthly	1.62 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													
34511 (ML-1) RF-G	Reported												
1,1,2-Trichloroethane	Permit Limits	0.88 Avg. Monthly	3.49 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													
34541 (ML-1) RF-G	Reported												
1,2-Dichloropropane	Permit Limits	5.38 Avg. Monthly	21.79 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													

* CEL = Compliance Evaluation Level

Name of Principal Executive Officer	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of a fine and imprisonment for knowing violations.	Date Completed
Title of Officer		Signature of Principal Executive Officer or Authorized Agent

ED_002003H_00001250-00012

WRD 2A-82

STATE OF WEST VIRGINIA
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT

Final Order Limitations
Year Round

FACILITY NAME: (WASHINGTON WORKS) E I DUPONT DE NEMOURS & CO
LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 002
WASTELOAD FOR THE MONTH OF:

CERTIFIED LABORATORY NAME:
CERTIFIED LABORATORY ADDRESS:
INDIVIDUAL PERFORMING ANALYSIS:

Parameter		Quantity		Units	N.E.	Other Units			CEL*	Units	N.E.	Measurement Frequency	Sample Type
34606 (ML-1) RF-G	Reported												
2,4-Dimethylphenol	Permit Limits	0.52 Avg. Monthly	1.29 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
39110 (ML-1) RF-G	Reported												
Di-n-butyl Phthalate	Permit Limits	0.55 Avg. Monthly	1.18 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
22456 (ML-1) RF-G	Reported												
Total PAH	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
32103 (ML-1) RF-G	Reported												
1,2-Dichloroethane	Permit Limits	4.94 Avg. Monthly	15.75 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													
34694 (ML-1) RF-G	Reported												
Phenol, Single Compound	Permit Limits	0.52 Avg. Monthly	1.29 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
39117 (ML-1) RF-G	Reported												
Phthalate Esters	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
79531 (ML-1) RF-G	Reported												
3,4 Benzofluoranthene	Permit Limits	0.55 Avg. Monthly	1.32 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
85811 (ML-1) RF-G	Reported												
Chloroethane	Permit Limits	3.02 Avg. Monthly	8.1 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													

* CEL = Compliance Evaluation Level

Name of Principal Executive Officer	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of a fine and imprisonment for knowing violations.	Date Completed
Title of Officer		Signature of Principal Executive Officer or Authorized Agent

ED_002003H_00001250-00013

WRD 2A-82

STATE OF WEST VIRGINIA
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT

Final Order Limitations
Year Round

FACILITY NAME: (WASHINGTON WORKS) E I DUPONT DE NEMOURS & CO
LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 002
WASTELOAD FOR THE MONTH OF:

CERTIFIED LABORATORY NAME:
CERTIFIED LABORATORY ADDRESS:
INDIVIDUAL PERFORMING ANALYSIS:

Parameter		Quantity		Units	N.E.	Other Units			CEL*	Units	N.E.	Measurement Frequency	Sample Type
01012 (ML-1) RF-G	Reported												
Beryllium, Total (as Be)	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
78456 (ML-1) RF-A	Reported												
Other, Halomethanes	Permit Limits	0.1 Avg. Monthly	0.19 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		1/month	Calculated
Year Round													
34010 (ML-1) RF-B	Reported												
Toluene	Permit Limits	0.77 Avg. Monthly	2.03 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		1/quarter	Grab
Year Round													
32730 (ML-1) RF-G	Reported												
Phenolics, Total Recoverable	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													
34371 (ML-1) RF-G	Reported												
Ethylbenzene	Permit Limits	3.9 Avg. Monthly	10.43 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													
34696 (ML-1) RF-G	Reported												
Naphthalene	Permit Limits	0.52 Avg. Monthly	1.29 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
39100 (ML-1) RF-G	Reported												
BIS(2-Ethylhexyl) Phthalate	Permit Limits	2.61 Avg. Monthly	7.08 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
00680 (ML-1) RF-A	Reported												
Total Organic Carbon	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	mg/l		1/month	24 hr Composite
Year Round													

* CEL = Compliance Evaluation Level

Name of Principal Executive Officer	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of a fine and imprisonment for knowing violations.	Date Completed
Title of Officer		Signature of Principal Executive Officer or Authorized Agent

ED_002003H_00001250-00014

WRD 2A-82

STATE OF WEST VIRGINIA
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT

Final Order Limitations
Year Round

FACILITY NAME: (WASHINGTON WORKS) E I DUPONT DE NEMOURS & CO
LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 002
WASTELOAD FOR THE MONTH OF:

CERTIFIED LABORATORY NAME:
CERTIFIED LABORATORY ADDRESS:
INDIVIDUAL PERFORMING ANALYSIS:

Parameter		Quantity		Units	N.E.	Other Units			CEL*	Units	N.E.	Measurement Frequency	Sample Type
32102 (ML-1) RF-G	Reported												
Carbon Tetrachloride Year Round	Permit Limits	3.9 Avg. Monthly	10.43 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
32106 (ML-1) RF-B	Reported												
Chloroform Year Round	Permit Limits	3.05 Avg. Monthly	8.92 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		1/quarter	Grab
81017 (ML-1) RF-B	Reported												
Chem. Oxygen Demand Year Round	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	mg/l		1/quarter	24 hr Composite
51044 (ML-1) RF-G	Reported												
1,3 Dichloropropylene Year Round	Permit Limits	5.38 Avg. Monthly	21.79 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
34391 (ML-1) RF-G	Reported												
Hexachlorobutadiene Year Round	Permit Limits	3.9 Avg. Monthly	10.43 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
51065 (ML-1) RF-A	Reported												
Ammonium Perfluorooctanoate Year Round	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		1/month	Grab
51715 (ML-1) RF-A	Reported												
C3 Dimer Acid/Salt Year Round	Order Limits	N/A	N/A			N/A	77 Avg. Monthly	112 Max. Daily	N/A	ug/l		1/week	24 hr Composite
									N/A				

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Title of Officer		Signature of Principal Executive Officer or Authorized Agent

ED_002003H_00001250-00015

WRD 2A-82

STATE OF WEST VIRGINIA
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT

Final Order Limitations
Year Round

FACILITY NAME: (WASHINGTON WORKS) E I DUPONT DE NEMOURS & CO
LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 005
WASTELOAD FOR THE MONTH OF:

CERTIFIED LABORATORY NAME:
CERTIFIED LABORATORY ADDRESS:
INDIVIDUAL PERFORMING ANALYSIS:

Parameter		Quantity		Units	N.E.	Other Units			CEL*	Units	N.E.	Measurement Frequency	Sample Type
50050 (ML-1) RF-A	Reported												
Flow,in Conduit or thru plant	Permit Limits	N/A	N/A			N/A	59.07 Avg. Monthly	63.25 Max. Daily	N/A	mgd		1/week	measured
Year Round													
00310 (ML-1) RF-A	Reported												
BOD, 5-Day 20 Deg.C	Permit Limits	1149 Avg. Monthly	3029 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	mg/l		1/week	24 hr Composite
Year Round													
00530 (ML-2) RF-A	Reported												
Total Suspended Solids	Permit Limits	5101 Avg. Monthly	12190 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	mg/l		1/week	24 hr Composite
Year Round													
00530 (ML-1) RF-A	Reported												
Total Suspended Solids	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	mg/l		1/week	24 hr Composite
Year Round													
00400 (ML-1) RF-A	Reported												
pH	Permit Limits	N/A	N/A			6 Inst. Min.	N/A	9 Inst. Max.	N/A	S.U.		1/daily	Grab
Year Round													
50060 (ML-1) RF-A	Reported												
Chlorine, Total Residual	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	98 Avg. Monthly	196 Max. Daily	100	ug/l		1/week	Grab
Year Round													
34423 (ML-1) RF-B	Reported												
Methylene Chloride	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		1/quarter	Grab
Year Round													
39175 (ML-1) RF-G	Reported												
Vinyl Chloride	Permit Limits	4.12 Avg. Monthly	8.68 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													

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Title of Officer		Signature of Principal Executive Officer or Authorized Agent

ED_002003H_00001250-00016

WRD 2A-82

STATE OF WEST VIRGINIA
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT

Final Order Limitations
Year Round

FACILITY NAME: (WASHINGTON WORKS) E I DUPONT DE NEMOURS & CO
LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 005
WASTELOAD FOR THE MONTH OF:

CERTIFIED LABORATORY NAME:
CERTIFIED LABORATORY ADDRESS:
INDIVIDUAL PERFORMING ANALYSIS:

Parameter		Quantity		Units	N.E.	Other Units			CEL*	Units	N.E.	Measurement Frequency	Sample Type
39180 (ML-1) RF-B	Reported												
Trichloroethylene	Permit Limits	0.99 Avg. Monthly	2.6 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		1/quarter	Grab
Year Round													
39700 (ML-1) RF-G	Reported												
Hexachlorobenzene	Permit Limits	5.14 Avg. Monthly	20.28 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34030 (ML-1) RF-G	Reported												
Benzene	Permit Limits	2.03 Avg. Monthly	5.57 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													
34571 (ML-1) RF-G	Reported												
1,4-Dichlorobenzene	Permit Limits	3.79 Avg. Monthly	9.95 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34586 (ML-1) RF-G	Reported												
2-Chlorophenol	Permit Limits	0.51 Avg. Monthly	1.61 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34591 (ML-1) RF-G	Reported												
2-Nitrophenol	Permit Limits	2.29 Avg. Monthly	6.9 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34601 (ML-1) RF-G	Reported												
2,4-Dichlorophenol	Permit Limits	0.64 Avg. Monthly	1.83 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34611 (ML-1) RF-G	Reported												
2,4-Dinitrotoluene	Permit Limits	1.85 Avg. Monthly	4.67 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													

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Name of Principal Executive Officer	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of a fine and imprisonment for knowing violations.	Date Completed
Title of Officer		Signature of Principal Executive Officer or Authorized Agent

ED_002003H_00001250-00017

WRD 2A-82

STATE OF WEST VIRGINIA
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT

Final Order Limitations
Year Round

FACILITY NAME: (WASHINGTON WORKS) E I DUPONT DE NEMOURS & CO
LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 005
WASTELOAD FOR THE MONTH OF:

CERTIFIED LABORATORY NAME:
CERTIFIED LABORATORY ADDRESS:
INDIVIDUAL PERFORMING ANALYSIS:

Parameter		Quantity				Other Units						Measurement Frequency	Sample Type
				Units	N.E.				CEL*	Units	N.E.		
34616 (ML-1) RF-G	Reported												
2,4-Dinitrophenol	Permit Limits	31.29 Avg. Monthly	109.12 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34626 (ML-1) RF-G	Reported												
2,6-Dinitrotoluene	Permit Limits	4.18 Avg. Monthly	10.5 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34646 (ML-1) RF-G	Reported												
4-Nitrophenol	Permit Limits	5.22 Avg. Monthly	16.41 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34657 (ML-1) RF-G	Reported												
4,6-Dinitro-o-cresol	Permit Limits	3.23 Avg. Monthly	11.45 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34469 (ML-1) RF-G	Reported												
Pyrene	Permit Limits	0.91 Avg. Monthly	2.3 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34475 (ML-1) RF-G	Reported												
Tetrachloroethylene	Permit Limits	1.66 Avg. Monthly	5.82 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													
34496 (ML-1) RF-G	Reported												
1,1 Dichloroethane	Permit Limits	0.91 Avg. Monthly	2.44 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													
34501 (ML-1) RF-G	Reported												
1,1-Dichloroethylene	Permit Limits	0.81 Avg. Monthly	1.91 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													

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Name of Principal Executive Officer	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of a fine and imprisonment for knowing violations.	Date Completed
Title of Officer		Signature of Principal Executive Officer or Authorized Agent

ED_002003H_00001250-00018

WRD 2A-82

STATE OF WEST VIRGINIA
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT

Final Order Limitations
Year Round

FACILITY NAME: (WASHINGTON WORKS) E I DUPONT DE NEMOURS & CO
LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 005
WASTELOAD FOR THE MONTH OF:

CERTIFIED LABORATORY NAME:
CERTIFIED LABORATORY ADDRESS:
INDIVIDUAL PERFORMING ANALYSIS:

Parameter		Quantity		Units	N.E.	Other Units			CEL*	Units	N.E.	Measurement Frequency	Sample Type
34526 (ML-1) RF-G	Reported												
Benzo (A) Anthracene	Permit Limits	0.83 Avg. Monthly	2.14 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34536 (ML-1) RF-G	Reported												
1,2-Dichlorobenzene	Permit Limits	6.15 Avg. Monthly	22.49 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34546 (ML-1) RF-G	Reported												
1,2-Trans-Dichloroethylene	Permit Limits	0.96 Avg. Monthly	2.53 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													
34551 (ML-1) RF-G	Reported												
1,2,4-Trichlorobenzene	Permit Limits	6 Avg. Monthly	22.11 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34566 (ML-1) RF-G	Reported												
1,3-Dichlorobenzene	Permit Limits	4.05 Avg. Monthly	10.21 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34320 (ML-1) RF-G	Reported												
Chrysene	Permit Limits	0.83 Avg. Monthly	2.14 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34336 (ML-1) RF-G	Reported												
Diethyl Phthalate	Permit Limits	2.48 Avg. Monthly	6.14 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34341 (ML-1) RF-G	Reported												
Dimethyl Phthalate	Permit Limits	0.78 Avg. Monthly	1.94 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													

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Name of Principal Executive Officer	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of a fine and imprisonment for knowing violations.	Date Completed
Title of Officer		Signature of Principal Executive Officer or Authorized Agent

ED_002003H_00001250-00019

WRD 2A-82

STATE OF WEST VIRGINIA
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT

Final Order Limitations
Year Round

FACILITY NAME: (WASHINGTON WORKS) E I DUPONT DE NEMOURS & CO
LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 005
WASTELOAD FOR THE MONTH OF:

CERTIFIED LABORATORY NAME:
CERTIFIED LABORATORY ADDRESS:
INDIVIDUAL PERFORMING ANALYSIS:

Parameter		Quantity		Units	N.E.	Other Units			CEL*	Units	N.E.	Measurement Frequency	Sample Type
34376 (ML-1) RF-G	Reported												
Fluoranthene	Permit Limits	0.96 Avg. Monthly	2.46 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34381 (ML-1) RF-G	Reported												
Fluorene	Permit Limits	0.83 Avg. Monthly	2.08 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34396 (ML-1) RF-G	Reported												
Hexachloroethane	Permit Limits	5.23 Avg. Monthly	20.7 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34418 (ML-1) RF-B	Reported												
Methyl Chloride	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		1/quarter	Grab
Year Round													
34447 (ML-1) RF-G	Reported												
Nitrobenzene	Permit Limits	56.28 Avg. Monthly	160.92 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34461 (ML-1) RF-G	Reported												
Phenanthrene	Permit Limits	0.83 Avg. Monthly	2.14 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34200 (ML-1) RF-G	Reported												
Acenaphthylene	Permit Limits	0.83 Avg. Monthly	2.14 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34205 (ML-1) RF-G	Reported												
Acenaphthene	Permit Limits	0.83 Avg. Monthly	2.14 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													

* CEL = Compliance Evaluation Level

Name of Principal Executive Officer

Title of Officer

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of a fine and imprisonment for knowing violations.

Date Completed

Signature of Principal Executive Officer or Authorized Agent

ED_002003H_00001250-00020

WRD 2A-82

STATE OF WEST VIRGINIA
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT

Final Order Limitations
Year Round

FACILITY NAME: (WASHINGTON WORKS) E I DUPONT DE NEMOURS & CO
LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 005
WASTELOAD FOR THE MONTH OF: _____

CERTIFIED LABORATORY NAME: _____
CERTIFIED LABORATORY ADDRESS: _____
INDIVIDUAL PERFORMING ANALYSIS: _____

Parameter		Quantity		Units	N.E.	Other Units			CEL*	Units	N.E.	Measurement Frequency	Sample Type
34215 (ML-1) RF-G	Reported												
Acrylonitrile	Permit Limits	3.92 Avg. Monthly	9.75 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													
34220 (ML-1) RF-G	Reported												
Anthracene	Permit Limits	0.83 Avg. Monthly	2.14 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34242 (ML-1) RF-G	Reported												
Benzo (K) Fluoranthene	Permit Limits	0.83 Avg. Monthly	2.14 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34247 (ML-1) RF-G	Reported												
Benzo (A) Pyrene	Permit Limits	0.88 Avg. Monthly	2.2 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34301 (ML-1) RF-G	Reported												
Chlorobenzene	Permit Limits	3.79 Avg. Monthly	9.95 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													
34506 (ML-1) RF-G	Reported												
1,1,1-Trichloroethane	Permit Limits	0.89 Avg. Monthly	2.35 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													
34511 (ML-1) RF-G	Reported												
1,1,2-Trichloroethane	Permit Limits	1.14 Avg. Monthly	4.05 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													
34541 (ML-1) RF-G	Reported												
1,2-Dichloropropane	Permit Limits	7.4 Avg. Monthly	23.59 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													

* CEL = Compliance Evaluation Level

Name of Principal Executive Officer	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of a fine and imprisonment for knowing violations.	Date Completed
Title of Officer		Signature of Principal Executive Officer or Authorized Agent

ED_002003H_00001250-00021

WRD 2A-82

STATE OF WEST VIRGINIA
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT

Final Order Limitations
Year Round

FACILITY NAME: (WASHINGTON WORKS) E I DUPONT DE NEMOURS & CO
LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 005
WASTELOAD FOR THE MONTH OF:

CERTIFIED LABORATORY NAME:
CERTIFIED LABORATORY ADDRESS:
INDIVIDUAL PERFORMING ANALYSIS:

Parameter		Quantity		Units	N.E.	Other Units			CEL*	Units	N.E.	Measurement Frequency	Sample Type
34606 (ML-1) RF-G	Reported												
2,4-Dimethylphenol	Permit Limits	0.76 Avg. Monthly	1.76 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
39110 (ML-1) RF-G	Reported												
Di-n-butyl Phthalate	Permit Limits	0.94 Avg. Monthly	2 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
22456 (ML-1) RF-G	Reported												
Total PAH	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
32103 (ML-1) RF-G	Reported												
1,2-Dichloroethane	Permit Limits	5.6 Avg. Monthly	17.79 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													
34694 (ML-1) RF-G	Reported												
Phenol, Single Compound	Permit Limits	0.72 Avg. Monthly	1.6 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
39117 (ML-1) RF-G	Reported												
Phthalate Esters	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
79531 (ML-1) RF-G	Reported												
3,4 Benzofluoranthene	Permit Limits	0.88 Avg. Monthly	2.2 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
85811 (ML-1) RF-G	Reported												
Chloroethane	Permit Limits	4.45 Avg. Monthly	11.75 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													

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Title of Officer		Signature of Principal Executive Officer or Authorized Agent

ED_002003H_00001250-00022

WRD 2A-82

STATE OF WEST VIRGINIA
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT

Final Order Limitations
Year Round

FACILITY NAME: (WASHINGTON WORKS) E I DUPONT DE NEMOURS & CO
LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 005
WASTELOAD FOR THE MONTH OF:

CERTIFIED LABORATORY NAME:
CERTIFIED LABORATORY ADDRESS:
INDIVIDUAL PERFORMING ANALYSIS:

Parameter		Quantity		Units	N.E.	Other Units			CEL*	Units	N.E.	Measurement Frequency	Sample Type
78456 (ML-1) RF-B	Reported												
Other, Halomethanes	Permit Limits	0.86 Avg. Monthly	1.73 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		1/quarter	Calculated
Year Round													
34010 (ML-1) RF-B	Reported												
Toluene	Permit Limits	1.13 Avg. Monthly	3.16 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		1/quarter	Grab
Year Round													
37371 (ML-1) RF-G	Reported												
Ethyl Benzene	Permit Limits	4.06 Avg. Monthly	11.26 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													
32730 (ML-1) RF-G	Reported												
Phenolics, Total Recoverable	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													
34696 (ML-1) RF-G	Reported												
Naphthalene	Permit Limits	0.83 Avg. Monthly	2.14 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
39100 (ML-1) RF-G	Reported												
BIS(2-Ethylhexyl) Phthalate	Permit Limits	4.06 Avg. Monthly	11.01 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
00680 (ML-1) RF-A	Reported												
Total Organic Carbon	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	mg/l		1/month	24 hr Composite
Year Round													
32102 (ML-1) RF-G	Reported												
Carbon Tetrachloride	Permit Limits	3.83 Avg. Monthly	10.11 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													

* CEL = Compliance Evaluation Level

Name of Principal Executive Officer

Title of Officer

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Date Completed

Signature of Principal Executive Officer or Authorized Agent

ED_002003H_00001250-00023

WRD 2A-82

STATE OF WEST VIRGINIA
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT

Final Order Limitations
Year Round

FACILITY NAME: (WASHINGTON WORKS) E I DUPONT DE NEMOURS & CO
LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 005
WASTELOAD FOR THE MONTH OF:

CERTIFIED LABORATORY NAME:
CERTIFIED LABORATORY ADDRESS:
INDIVIDUAL PERFORMING ANALYSIS:

Parameter		Quantity		Units	N.E.	Other Units			CEL*	Units	N.E.	Measurement Frequency	Sample Type
32106 (ML-1) RF-B	Reported												
Chloroform	Permit Limits	3.11 Avg. Monthly	8.86 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		1/quarter	Grab
Year Round													
81017 (ML-1) RF-B	Reported												
Chem. Oxygen Demand	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	mg/l		1/quarter	24 hr Composite
Year Round													
51044 (ML-1) RF-G	Reported												
1,3 Dichloropropylene	Permit Limits	5.36 Avg. Monthly	20.54 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													
34391 (ML-1) RF-G	Reported												
Hexachlorobutadiene	Permit Limits	3.87 Avg. Monthly	10.29 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
51065 (ML-1) RF-A	Reported												
Ammonium Perfluorooctanoate	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	mg/l		1/month	Grab
Year Round													
51715 (ML-1) RF-A	Reported												
C3 Dimer Acid/Salt	Order Limits	N/A	N/A			N/A	191 Avg. Monthly	278 Max. Daily	N/A	ug/l		1/week	24 hr Composite
Year Round													
									N/A				
									N/A				

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Title of Officer		Signature of Principal Executive Officer or Authorized Agent

ED_002003H_00001250-00024

WRD 2A-82

STATE OF WEST VIRGINIA
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT

Final Order Limitations
Year Round

FACILITY NAME: (WASHINGTON WORKS) E I DUPONT DE NEMOURS & CO
LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 102
WASTELOAD FOR THE MONTH OF: _____

CERTIFIED LABORATORY NAME: _____
CERTIFIED LABORATORY ADDRESS: _____
INDIVIDUAL PERFORMING ANALYSIS: _____

Parameter		Quantity		Units	N.E.	Other Units			CEL*	Units	N.E.	Measurement Frequency	Sample Type
50050 (ML-1) RF-A Flow,in Conduit or thru plant Year Round	Reported												
	Permit Limits	N/A	N/A			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	mgd		1/month	Estimated
00310 (ML-1) RF-A BOD, 5-Day 20 Deg.C Year Round	Reported												
	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	mg/l		1/month	24 hr Composite
00530 (ML-1) RF-A Total Suspended Solids Year Round	Reported												
	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	mg/l		1/month	24 hr Composite
00400 (ML-1) RF-A pH Year Round	Reported												
	Permit Limits	N/A	N/A			Rpt Only Inst. Min.	N/A	Rpt Only Inst. Max.	N/A	S.U.		1/month	Grab
81017 (ML-1) RF-A Chem. Oxygen Demand Year Round	Reported												
	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	mg/l		1/month	24 hr Composite
51065 (ML-1) RF-A Ammonium Perfluorooctanoate Year Round	Reported												
	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		1/week	Grab
51715 (ML-1) RF-A C3 Dimer Acid/Salt Year Round	Reported												
	Order Limits	N/A	N/A			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		1/week	Grab
51715 (ML-G) RF-A C3 Dimer Acid/Salt Year Round	Reported												
	Order Limits	N/A	N/A			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		1/daily	Grab

* CEL = Compliance Evaluation Level

Name of Principal Executive Officer	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of a fine and imprisonment for knowing violations.	Date Completed
Title of Officer		Signature of Principal Executive Officer or Authorized Agent

ED_002003H_00001250-00025

WRD 2A-82

STATE OF WEST VIRGINIA
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT

Final Order Limitations
Year Round

FACILITY NAME: (WASHINGTON WORKS) E I DUPONT DE NEMOURS & CO
LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 305
WASTELOAD FOR THE MONTH OF:

CERTIFIED LABORATORY NAME:
CERTIFIED LABORATORY ADDRESS:
INDIVIDUAL PERFORMING ANALYSIS:

Parameter		Quantity				Other Units						Measurement Frequency	Sample Type
				Units	N.E.				CEL*	Units	N.E.		
00310 (ML-1) RF-B	Reported												
BOD, 5-Day 20 Deg.C	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	mg/l		1/quarter	24 hr Composite
Year Round													
00530 (ML-1) RF-B	Reported												
Total Suspended Solids	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	mg/l		1/quarter	24 hr Composite
Year Round													
81017 (ML-1) RF-B	Reported												
Chem. Oxygen Demand	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	mg/l		1/quarter	24 hr Composite
Year Round													
51715 (ML-1) RF-A	Reported												
C3 Dimer Acid/Salt	Order Limits	N/A	N/A			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		1/week	Grab
Year Round													
51715 (ML-G) RF-A	Reported												
C3 Dimer Acid/Salt	Order Limits	N/A	N/A			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		1/daily	Grab
Year Round													
									N/A				
									N/A				
									N/A				

* CEL = Compliance Evaluation Level

Name of Principal Executive Officer	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of a fine and imprisonment for knowing violations.	Date Completed
Title of Officer		Signature of Principal Executive Officer or Authorized Agent

ED_002003H_00001250-00026

WRD 2A-82

STATE OF WEST VIRGINIA
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT

Final Order Limitations
Year Round

FACILITY NAME: (WASHINGTON WORKS) E I DUPONT DE NEMOURS & CO
LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 605
WASTELOAD FOR THE MONTH OF:

CERTIFIED LABORATORY NAME:
CERTIFIED LABORATORY ADDRESS:
INDIVIDUAL PERFORMING ANALYSIS:

Parameter		Quantity				Other Units						Measurement Frequency	Sample Type
				Units	N.E.				CEL*	Units	N.E.		
51715 (ML-1) RF-A	Reported												
C3 Dimer Acid/Salt	Order Limits	N/A	N/A			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		1/week	Grab
Year Round													
51715 (ML-G) RF-A	Reported												
C3 Dimer Acid/Salt	Order Limits	N/A	N/A			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		1/daily	Grab
Year Round													
									N/A				
									N/A				
									N/A				
									N/A				
									N/A				
									N/A				

* CEL = Compliance Evaluation Level

Name of Principal Executive Officer	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of a fine and imprisonment for knowing violations.	Date Completed
Title of Officer		Signature of Principal Executive Officer or Authorized Agent

ED_002003H_00001250-00027

west virginia department of environmental protection

Division of Water and Waste Management
601 57th Street SE
Charleston, WV 25304-2345
Telephone Number: (304) 926-0495
Fax Number: (304) 926-0463

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

January 31, 2012

Mr. D. David Altman
15 E 8th Street, Suite 200
Cincinnati, OH 45202

CERTIFIED MAIL RETURN RECEIPT REQUESTED

Re: WV/NPDES Permit No. WV0001279
Consent Order No. 7418 Comments

Dear Mr. Altman:

This correspondence is in response to your comment letter dated December 13, 2011 regarding draft Consent Order No. 7418 for WV/NPDES Permit No. WV0001279 issued to the Dupont - Washington Works facility. Comments are summarized first in bold italics followed by the agency's responses.

1. ***Comment: The order should not allow Dupont to discharge the new compound until all of the treatment upgrades are completed.***

   The existing treatment employed at the facility will provide treatment of the new compound. The additional treatment proposed by the permittee will enhance treatment and allow for less frequent change-outs of activated carbon from the existing carbon bed system. Regardless of the treatment enhancements to be made by the permittee, the effluent limitations for the new compound are effective immediately upon issuance of the consent order and will be protective of the water quality standards and designated uses of the Ohio River.

2. ***Comment: The order shouldn't be issued without explaining the new compound, its effects on people and the environment, its toxicity, and how the DEP arrived at the safety levels and monitoring requirements for the new compound.***

   The new compound (C3 Dimer Acid/Salt) is a new fluoropolymer compound that Dupont is representing as an ultimate replacement for the existing fluoropolymer known as C8 (or PFOA, perfluorooctanoic acid). Dupont entered into a Toxic Substances Control Act

Consent (TSCA) Consent Order with the U.S. EPA in January 2009 which granted Dupont approval, under conditions set forth in the TSCA Consent Order, to manufacture, process, and distribute the new compound. The U.S. EPA TSCA Consent Order prescribed certain requirements and toxicological studies regarding the new compound. In 2011, Dupont provided toxicological data to the WV DEP as well as plans to begin production of the new compound. As noted, the U.S. EPA TSCA Consent Order prescribes certain requirements on Dupont regarding the new compound and those requirements are required to be achieved independent of Consent Order No. 7418 that is proposed by the WV DEP. The WV DEP reviewed the toxicological information provided by Dupont regarding the new compound. Chronic studies which provide data regarding long-term impacts are still being conducted by Dupont on the new compound and are not yet complete. Although such long-term studies are preferable, toxicological data from shorter-term (e.g. subchronic) studies may be used to determine a suitable toxicity criterion, provided an additional safety factor is applied. Thus the agency utilized subchronic (90 day) data developed by DuPont in support of its PMN submission (subsequent to the 2009 TSCA Consent Order), incorporating appropriate safety/uncertainty factors, in order to calculate a risk-based Drinking Water Equivalent Level (DWEL) for the new compound. As a courtesy, the agency has attached a memo prepared by a WV DEP toxicologist which summarizes how the agency arrived at the risk-based DWEL. As the requisite chronic studies are completed in the future, the agency will revisit and revise, as necessary, the value indicated in the WV DEP Consent Order. However, based on the information provided and all other information available at this time, the WV DEP has determined that the requirements imposed will be protective of West Virginia's narrative water quality standards found in 47 CSR 2, Section 3 of the West Virginia Legislative Rules.

3. ***Comment: The proposed Order appears to exceed WV DEP's authority for modifying administratively extended permits.***

   As noted in the Consent Order, the permit cannot be currently modified because it has been administratively extended. The agency is continuing to process the reissuance of WV/NPDES Permit No. WV0001279, but does not expect the permit to be reissued in the near future. Therefore, the agency processed this Consent Order as the best available means to address upgrades at the facility and the production of the new compound.

4. ***Comment: The proposed Order relies on Dupont's own interpretation of the 99% efficiency requirement in the U.S. EPA TSCA Order without independent interpretation by WV DEP or confirmation by U.S. EPA.***

   Please note that the 99% efficiency requirement is not part of WV DEP's Consent Order and was a requirement determined by the U.S. EPA. Its reference in the WV DEP document was noted as a "Finding of Fact" in order to provide background information regarding prior events. For this reason, the WV DEP cannot provide insight or justification for the requirements in the TSCA Order. Any questions regarding the TSCA

Order should be directed to the U.S. EPA. Please note that the requirements in Consent Order No. 7418 are independent of the requirements in the TSCA Order, but also do not supersede said requirements.

5. ***Comment: A public hearing is requested.***

The agency received three (3) requests for a public hearing regarding the consent order. Based on the limited comments received by the agency and resultant limited requests for a public hearing, the agency has determined that a public hearing is not warranted.

The agency would like to thank you for taking the time to submit comments.

The Division of Water and Waste Management issued Consent Order No. 7418 on January 31, 2012. Thank you for your interest in this order.

Sincerely,

Scott G. Mandirola
Director

Encolsure

cc w/enclosure: U.S. EPA Region 3
Env. Inspector Supervisor
Env. Inspector

Little Hocking Water Association, Inc.
3998 State Route 124
PO Box 188
Little Hocking, OH 45742

west virginia department of environmental protection

Office of Environmental Remediation
131A Peninsula Street
Wheeling, WV 26003
Phone: 304-238-1220/Fax: 304-238-1006

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

MEMORANDUM

To: Yogesh Patel
Matthew Sweeney

From: Lawrence P. Sirinek, Ph.D. LPS

Date: January 31, 2012

Subject: DuPont GenX Toxicity

CC: Pat Campbell
Scott Mandirola
Ken Ellison
Don Martin

I have completed my review of the documentation provided by DuPont regarding the toxicity of GenX Compound A and Compound B. As I requested redacted documents, the identities and chemical differences between the substances were not provided; however, most of the toxicological studies appear to involve compound B. For this reason I have focused my discussion on this compound. The relevance of the different compounds as they relate to permitted discharges should be clarified with DuPont.

With regard to ecological endpoints, I concur with the points provided in the documents provided by DuPont. Thus, 4.2 mg/L, reported as the 21 day NOEC (no observed effect concentration) for *Daphnia magna* seems to be an appropriate endpoint for use in determining discharge levels that would protect aquatic receptors.

With regard to human health effects, there were no data from chronic studies performed in either rats or primates contained in the material provided by DuPont. Chronic studies in both rats and mice are apparently ongoing, however data was not provided. While these data would be preferable, derivation of an appropriate toxicity criterion for human health can be based on a subchronic (90 day) study performed in rats. In this particular study, DuPont indicates a NOAEL (no observed adverse effect level) at 10 mg/kg/day, based on evidence of regenerative anemia in males at 100 mg/kg/d and females at 1000 mg/kg/d. Other effects were reported, but are likely attributable to mechanisms that are often considered irrelevant to potential human toxicity (e.g. PPARα agonists).

With regard to the NOAEL, it must be noted that male rats exposed at this concentration (10 mg/kg/day) did exhibit significant decreases in erythrocyte (red blood cell) counts, hematocrit, and hemoglobin levels that are also indicative of anemia. DuPont considers the anemia

described by these parameters as non-adverse in this group, since the animals lacked evidence of compensatory erythrocyte production (e.g. elevated reticulocyte counts). On the other hand, while the reticulocyte counts were not significantly elevated in this group, there was a clear, dose-dependent trend in the mean reticulocyte count at week 13. Unfortunately it cannot be determined whether continued dosing beyond this time point would have resulted in more dramatic indications of a compensatory response, or whether the impact was sufficiently limited at the 10 mg/kg/day dose, such that no compensatory response was needed. Absent more definitive data, the depressed red cell counts, hematocrit and hemoglobin levels should be sufficient to constitute a health-protective endpoint for purposes of assessing the potential impacts from chronic exposure to the test compound. Additional consideration should be made when results of the chronic study are provided.

On the basis of a revised NOAEL of 0.1 mg/kg/day, and applying relevant uncertainty factors for chronic to subchronic extrapolation (10) and rat to human extrapolation (10), the oral reference dose (RfD_O) = 0.001 mg/kg/day. Based upon this value, a reasonable risk-based drinking water equivalent level (DWEL) assuming total intake of the substance from a contaminated source would be 35μg/L. As discussed in subsequent communications, a source adjustment of 50% could reasonably be applied to this value to allow for potential intake from other sources. Use of this adjustment would result in a final DWEL of 18 μg/L. Based upon the information provided by DuPont, I believe this value would protect both human health and the environment.

I hope this discussion is helpful. Please contact me should you require further discussion or clarification.

west virginia department of environmental protection

Division of Water and Waste Management
601 57th Street SE
Charleston, WV 25304-2345
Telephone Number: (304) 926-0495
Fax Number: (304) 926-0463

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

January 31, 2012

Mr. Joseph K. Kiger
#97 Terra Rosa Drive
Washington, WV 26181

CERTIFIED MAIL RETURN RECEIPT REQUESTED

Re: WV/NPDES Permit No. WV0001279
Consent Order No. 7418 Comments

Dear Mr. Kiger:

This correspondence is in response to your comment letter dated December 13, 2011 regarding draft Consent Order No. 7418 for WV/NPDES Permit No. WV0001279 issued to the Dupont - Washington Works facility. Comments are summarized first in bold italics followed by the agency's responses.

1. ***Comment: The order should not allow Dupont to discharge the new compound until all of the treatment upgrades are completed.***

   The existing treatment employed at the facility will provide treatment of the new compound. The additional treatment proposed by the permittee will enhance treatment and allow for less frequent change-outs of activated carbon from the existing carbon bed system. Regardless of the treatment enhancements to be made by the permittee, the effluent limitations for the new compound are effective immediately upon issuance of the consent order and will be protective of the water quality standards and designated uses of the Ohio River.

2. ***Comment: The order shouldn't be issued without explaining the new compound, its effects on people and the environment, its toxicity, and how the DEP arrived at the safety levels and monitoring requirements for the new compound.***

   The new compound (C3 Dimer Acid/Salt) is a new fluoropolymer compound that Dupont is representing as an ultimate replacement for the existing fluoropolymer known as C8 (or PFOA, perfluorooctanoic acid). Dupont entered into a Toxic Substances Control Act Consent (TSCA) Consent Order with the U.S. EPA in January 2009 which granted Dupont approval, under conditions set forth in the TSCA Consent Order, to manufacture, process, and distribute the new compound. The U.S. EPA TSCA Consent Order

prescribed certain requirements and toxicological studies regarding the new compound. In 2011, Dupont provided toxicological data to the WV DEP as well as plans to begin production of the new compound. As noted, the U.S. EPA TSCA Consent Order prescribes certain requirements on Dupont regarding the new compound and those requirements are required to be achieved independent of Consent Order No. 7418 that is proposed by the WV DEP. The WV DEP reviewed the toxicological information provided by Dupont regarding the new compound. Chronic studies which provide data regarding long-term impacts are still being conducted by Dupont on the new compound and are not yet complete. Although such long-term studies are preferable, toxicological data from shorter-term (e.g. subchronic) studies may be used to determine a suitable toxicity criterion, provided an additional safety factor is applied. Thus the agency utilized subchronic (90 day) data developed by DuPont in support of its PMN submission (subsequent to the 2009 TSCA Consent Order), incorporating appropriate safety/uncertainty factors, in order to calculate a risk-based Drinking Water Equivalent Level (DWEL) for the new compound. As a courtesy, the agency has attached a memo prepared by a WV DEP toxicologist which summarizes how the agency arrived at the risk-based DWEL. As the requisite chronic studies are completed in the future, the agency will revisit and revise, as necessary, the value indicated in the WV DEP Consent Order. However, based on the information provided and all other information available at this time, the WV DEP has determined that the requirements imposed will be protective of West Virginia's narrative water quality standards found in 47 CSR 2, Section 3 of the West Virginia Legislative Rules.

3. ***Comment: A public hearing is requested.***

   The agency received three (3) requests for a public hearing regarding the consent order. Based on the limited comments received by the agency and resultant limited requests for a public hearing, the agency has determined that a public hearing is not warranted.

The agency would like to thank you for taking the time to submit comments.

The Division of Water and Waste Management issued Consent Order No. 7418 on January 31, 2012. Thank you for your interest in this order.

Sincerely,

Scott G. Mandirola
Director

Encolsure

cc w/enclosure: U.S. EPA Region 3
Env. Inspector Supervisor
Env. Inspector

west virginia department of environmental protection

Office of Environmental Remediation
131A Peninsula Street
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Phone: 304-238-1220/Fax: 304-238-1006

Earl Ray Tomblin, Governor
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MEMORANDUM

To: Yogesh Patel
Matthew Sweeney

From: Lawrence P. Sirinek, Ph.D. LPS

Date: January 31, 2012

Subject: DuPont GenX Toxicity

CC: Pat Campbell
Scott Mandirola
Ken Ellison
Don Martin

I have completed my review of the documentation provided by DuPont regarding the toxicity of GenX Compound A and Compound B. As I requested redacted documents, the identities and chemical differences between the substances were not provided; however, most of the toxicological studies appear to involve compound B. For this reason I have focused my discussion on this compound. The relevance of the different compounds as they relate to permitted discharges should be clarified with DuPont.

With regard to ecological endpoints, I concur with the points provided in the documents provided by DuPont. Thus, 4.2 mg/L, reported as the 21 day NOEC (no observed effect concentration) for *Daphnia magna* seems to be an appropriate endpoint for use in determining discharge levels that would protect aquatic receptors.

With regard to human health effects, there were no data from chronic studies performed in either rats or primates contained in the material provided by DuPont. Chronic studies in both rats and mice are apparently ongoing, however data was not provided. While these data would be preferable, derivation of an appropriate toxicity criterion for human health can be based on a subchronic (90 day) study performed in rats. In this particular study, DuPont indicates a NOAEL (no observed adverse effect level) at 10 mg/kg/day, based on evidence of regenerative anemia in males at 100 mg/kg/d and females at 1000 mg/kg/d. Other effects were reported, but are likely attributable to mechanisms that are often considered irrelevant to potential human toxicity (e.g. PPARα agonists).

With regard to the NOAEL, it must be noted that male rats exposed at this concentration (10 mg/kg/day) did exhibit significant decreases in erythrocyte (red blood cell) counts, hematocrit, and hemoglobin levels that are also indicative of anemia. DuPont considers the anemia

described by these parameters as non-adverse in this group, since the animals lacked evidence of compensatory erythrocyte production (e.g. elevated reticulocyte counts). On the other hand, while the reticulocyte counts were not significantly elevated in this group, there was a clear, dose-dependent trend in the mean reticulocyte count at week 13. Unfortunately it cannot be determined whether continued dosing beyond this time point would have resulted in more dramatic indications of a compensatory response, or whether the impact was sufficiently limited at the 10 mg/kg/day dose, such that no compensatory response was needed. Absent more definitive data, the depressed red cell counts, hematocrit and hemoglobin levels should be sufficient to constitute a health-protective endpoint for purposes of assessing the potential impacts from chronic exposure to the test compound. Additional consideration should be made when results of the chronic study are provided.

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I hope this discussion is helpful. Please contact me should you require further discussion or clarification.

west virginia department of environmental protection

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Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

January 31, 2012

Jim and Della Tennant
15 Mansion Blvd.
Parkersburg, WV 26101

CERTIFIED MAIL RETURN RECEIPT REQUESTED

Re: WV/NPDES Permit No. WV0001279
Consent Order No. 7418 Comments

Dear Mr. and Mrs. Tennant:

This correspondence is in response to your comment letter dated December 13, 2011 regarding draft Consent Order No. 7418 for WV/NPDES Permit No. WV0001279 issued to the Dupont - Washington Works facility. Comments are summarized first in bold italics followed by the agency's responses.

1. ***Comment: The order should not allow Dupont to discharge the new compound until all of the treatment upgrades are completed.***

   The existing treatment employed at the facility will provide treatment of the new compound. The additional treatment proposed by the permittee will enhance treatment and allow for less frequent change-outs of activated carbon from the existing carbon bed system. Regardless of the treatment enhancements to be made by the permittee, the effluent limitations for the new compound are effective immediately upon issuance of the consent order and will be protective of the water quality standards and designated uses of the Ohio River.

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Sincerely,

Scott G. Mandirola
Director

Encolsure

cc w/enclosure: U.S. EPA Region 3
Env. Inspector Supervisor
Env. Inspector

west virginia department of environmental protection

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MEMORANDUM

To: Yogesh Patel
Matthew Sweeney

From: Lawrence P. Sirinek, Ph.D. LPS

Date: January 31, 2012

Subject: DuPont GenX Toxicity

CC: Pat Campbell
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Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

91 7108 2133 3939 2099 3082

CONSENT ORDER
ISSUED UNDER THE
WATER POLLUTION CONTROL ACT
WEST VIRGINIA CODE, CHAPTER 22, ARTICLE 11

TO: E. I. du Pont de Nemours and Company
Washington Works
c/o Karl J. Boelter, Plant Manager
P. O. Box 1217
Washington, WV 26181-1217

DATE: January 31, 2012

ORDER NO.: 7418

INTRODUCTION

This Consent Order is issued by the Director of the Division of Water and Waste Management, Department of Environmental Protection, (hereinafter, the "Director") under the authority of Chapter 22, Article 11, Section 1, *et. seq.* of the Code of West Virginia to E. I. du Pont de Nemours and Company (hereinafter "DuPont").

FINDINGS OF FACT

In support of this Order, the Director hereby finds the following:

1. DuPont operates a multiple product line manufacturing facility and associated industrial wastewater treatment plant located in Washington, Wood County, West Virginia. This facility is known as the Washington Works Plant ("Facility" or the "Plant").

2. This Facility is permitted under WV/NPDES Permit No. WV0001279 (the "Permit"), issued August 4, 2003 to authorize the Plant's point source discharges into the Ohio River or tributaries thereof.

3. In accordance with 47 CSR 10-4.3, DuPont timely applied for renewal of the Permit on December 20, 2007, over 180 days prior to the Permit's scheduled expiration date of June 30, 2008.

4. Since DuPont's submittal of its renewal application, WVDEP has administratively extended the Permit. As of the date of this Consent Order, the Permit remains administratively extended until December 31, 2011.

5. DuPont has developed patented technology for a new-generation processing aid for the production of high-performance fluoropolymers using a new compound C3 Dimer Acid/Salt (CAS # 13252-13-6 and CAS # 62037-80-3) (hereafter the "New Compound"). DuPont represents that this technology is a sustainable solution that includes a new processing aid with a favorable toxicological profile and rapid bioelimination. DuPont further represents that it will utilize environmental control technologies that reduce environmental release and exposure. The U.S. EPA, through a Toxic Substances Control Act Section 5(e) Consent Order ("TSCA Order") executed by DuPont on January 28, 2009, granted DuPont approval, under conditions set forth in the TSCA Order, to commercially manufacture, process, and distributes the processing aid. The TSCA Order requires that DuPont shall recover and capture (destroy) or recycle the New Compound "at an overall efficiency of 99% from all the effluent streams and the air emissions (point source and fugitive)." This requirement is interpreted by DuPont to be applied in the aggregate on an annual basis, for all U.S. sites where the New Compound is used. The wastewater treatment system for the Facility's fluoropolymers processes will be modified to achieve the TSCA Order requirements at present and future production capacity.

6. At this time, based on the results of its ongoing research and development activities, DuPont is planning to undertake construction of related upgrades to the Facility's wastewater treatment system for fluoropolymers processes currently discharging through internal Outlets 102 and 305, in conjunction with the use of the New Compound, and to commence the initial phase of commercial-scale production using the New Compound.

7. The planned upgrades to the fluoropolymers wastewater treatment system include new higher efficiency processing aid recovery, addition of a new reverse osmosis ("RO") system, and expansion of the existing carbon bed systems.

8. The Director cannot modify a WV/NPDES permit that has been administratively extended beyond its original expiration date. Accordingly, WVDEP cannot currently modify the Permit to authorize DuPont to scale up the use of the New Compound, to discharge the New Compound, and to undertake the related wastewater treatment plant upgrades described in Paragraphs 6-7, above.

9. DuPont provided toxicity data to WVDEP in March of 2011. Since that time, ongoing dialogue has occurred and additional information shared between the parties regarding the planned upgrades and the New Compound. On August 3, 2011, DuPont provided additional toxicological information as well as plans to begin production using the New Compound to the WVDEP.

10. The parties have entered into this Consent Order as the most expedient mechanism to allow DuPont to begin construction activities in connection with necessary upgrades to the wastewater treatment system and to commence commercial scale production using

the New Compound, as described in Paragraphs 5 and 6 above, pending the Director's renewal of the Permit. This Consent Order does not constitute and shall not be construed as a finding by the Director that DuPont has committed any violation(s) of the terms and conditions of the Permit.

ORDER FOR COMPLIANCE

Now, therefore, in accordance with Chapter 22, Article 11, Section 1 *et seq.* of the West Virginia Code, it is hereby ORDERED by the Director as follows:

1. DuPont shall undertake construction activities associated with the above-described wastewater treatment plant upgrades in accordance with the following schedule:

    a. Modifications to the Granular Mother Liquor ("GML")/Lamella system to achieve enhanced solids removal shall be initiated no later than six months after the effective date of this Consent Order.
    b. Construction of a new stage 1 RO unit with new membrane technology for enhanced processing aid recovery shall be initiated no later than 12 months after the effective date of this Consent Order.
    c. Sub-micron filtration and additional RO units for recovery of processing aid from previously non-recoverable process streams, and carbon beds for capture of processing aid shall be installed no later than 24 months after the effective date of this Consent Order.
    d. Additional carbon beds in W9 Line 1 for enhanced abatement capability when carbon change-outs occur shall be installed no later than 24 months after the effective date of this Consent Order.
    e. Connection of production areas to new recovery/abatement system as reflected in the permit application shall occur no later than 24 months after the effective date of this Consent Order.

2. During the period of transition to the new processing aid and treatment system upgrades, wastewaters from fluoropolymers processes covered by these changes shall continue to be treated by existing treatment facilities such that all wastestreams that are currently receiving treatment via activated carbon will continue to receive such treatment. DuPont has indicated that the New Compound will require more frequent change-outs of carbon in the carbon beds in order to maintain treatment removal efficiencies. DuPont shall replace the lead bed of granulated activated carbon within seven (7) days of detecting break-through of the New Compound from the lead bed while maintaining an effective polish bed in the system or cease discharge from the affected carbon bed system. Should monitoring detect break-through from the final polish bed, DuPont shall cease discharge from the affected carbon bed system within 24 hours of detecting such break-through until unspent carbon is in place to treat that wastestream. For purposes of this Consent Order, "break-through" will be deemed to have occurred when concentrations of the New Compound are detected at 1 mg/l or greater using the analytical method specified in Paragraph 5, below. This requirement shall apply to internal Outlets 102, 305 and a new internal monitoring location being designated as internal Outlet 605. Further, DuPont

shall operate and maintain the granulated activated carbon beds at internal Outlets 102, 305 and 605 in a manner to prevent the inhibition of treatment of other pollutants.

3. Based on the toxicological information provided and all other information available at this time, WVDEP has determined that a concentration of no more than 17.5 ug/l of the New Compound in the receiving stream outside of an applicable mixing zone will be protective of West Virginia's narrative water quality standards found in 47 CSR 2, Section 3 of the West Virginia Legislative Rules. To this end, WVDEP has established the discharge limitations for the New Compound as set out in Paragraph 4, below.

4. DuPont shall adhere to the following limitations and perform the following self-monitoring for the New Compound during the term of this Order in accordance with the following:

Outlet	Monthly Average	Maximum Daily	Units	Monitoring Frequency	Sample Type
102[A]	Monitor	Monitor	ug/l	1/day[D]	Grab
102[B]	Monitor	Monitor	ug/l	1/week[D]	Grab
305[A]	Monitor	Monitor	ug/l	1/day[D]	Grab
305[B]	Monitor	Monitor	ug/l	1/week[D]	Grab
605[A,C]	Monitor	Monitor	ug/l	1/day[D]	Grab
605[B,C]	Monitor	Monitor	ug/l	1/week[D]	Grab
002	77[E]	112[E]	ug/l	1/week	24-hour Composite
005	191[E]	278[E]	ug/l	1/week	24-hour Composite

[A] Monitoring location after exiting lead activated carbon bed and prior to entering polish activated carbon bed.
[B] Monitoring location after exiting the polish activated carbon bed.
[C] Discharge from carbon treatment system located in building 127.
[D] When discharging.
[E] As discussed in Paragraph 3, above, these limits have been calculated to ensure a concentration of no more than 17.5 ug/l in the receiving stream outside of the applicable mixing zone, as determined by application of the mixing zone dilution factor for the respective outlet specified in the current Fact Sheet for the Permit.

5. Samples taken at Outlets 002 and 005 pursuant to Paragraph 4 above shall be analyzed by Liquid Chromatography/Mass Spectrometry/Mass Spectrometry ("LC/MS/MS") with a method detection limit ("MDL") of 1 ug/l or less. Samples taken at internal Outlets 102, 305 and 605 pursuant to Paragraph 4 above shall be analyzed by Liquid Chromatography ("LC") or Gas Chromatography ("GC") per internal plant method with an MDL of 1 mg/l or less.

6. Outlet results for sampling performed pursuant to Paragraph 4 above shall be reported monthly to the WVDEP on the attached Discharge Monitoring Reports ("DMRs"). In addition, DuPont shall maintain a log of the results of the daily monitoring required by Paragraph 4 at internal Outlets 102, 305 and 605, and shall submit this log to WVDEP on a monthly basis as an attachment to its DMR.

7. Commercial production using the New Compound and generating wastewaters for on-site treatment may commence upon the execution of this Order, subject to compliance with the provisions of this Order.

8. This Consent Order may be reopened and revised by agreement of the parties to prescribe additional and/or different requirements, including different monitoring requirements and/or increased or decreased discharge limitations, pursuant to any new information or data regarding the New Compound.

9. This Order shall terminate upon notification by DuPont that the actions required by the Order of Compliance have been completed and the Director's written concurrence therewith or upon the issuance by WVDEP of a renewed permit for the Facility that authorizes the activities covered by this Order that have not been completed as of that time, whichever occurs earlier.

OTHER PROVISIONS

1. DuPont hereby waives its right to appeal this Order under the provisions of Chapter 22, Article 11, Section 21 of the Code of West Virginia. Under this Order, DuPont agrees to take all actions required by the terms and conditions of this Order and consents to and will not contest the Director's jurisdiction regarding this Order. However, DuPont does not admit to any factual and legal determinations made by the Director and reserves all rights and defenses available regarding liability or responsibility in any proceedings regarding DuPont other than proceedings, administrative or civil, to enforce this Order.

2. If any event occurs which causes delay in the achievement of the requirements of this Order, DuPont shall have the burden of proving that the delay was caused by circumstances beyond its reasonable control which could not have been overcome by due diligence (i.e., force majeure). Force majeure shall not include delays caused or contributed to by the lack of sufficient funding. Within three (3) working days after DuPont becomes aware of such a delay, DuPont shall provide written notification to the Director. Within ten (10) working days of initial notification, DuPont shall submit a detailed written explanation of the anticipated length and cause of the delay, the measures taken and/or to be taken to prevent or minimize the delay, and a timetable by which DuPont intends to implement these measures. If the Director agrees that the delay has been or will be caused by circumstances beyond the reasonable control of DuPont (i.e., force majeure), the time for performance hereunder shall be extended for a period of time equal to the delay resulting from such circumstances. A force majeure amendment

granted by the Director shall be considered a binding extension of this Order and of the requirements herein. The determination of the Director shall be final and not subject to appeal.

3. Compliance with the terms and conditions of this Order shall not in any way be construed as relieving DuPont of the obligation to comply with any applicable law, permit, other order, or any other requirement otherwise applicable. Violations of the terms and conditions of this Order may subject DuPont to additional penalties and injunctive relief in accordance with the applicable law.

4. The provisions of this Order are severable and should a court or board of competent jurisdiction declare any provisions to be invalid or unenforceable, all other provisions shall remain in full force and effect.

5. This Order is binding on DuPont, its successors and assigns.

This Order shall become effective upon the date on which a true and correct copy of this fully executed Order is received by DuPont.

Karl J. Boelter, Plant Manager
Washington Works
E. I. du Pont de Nemours and Company

11/18/11
Date

Public Notice begin: November 26, 2012
Date

Public Notice end: December 26, 2012
Date

Scott G. Mandirola, Director
Division of Water and Waste Management
West Virginia Department of Environmental Protection

1/31/2012
Date

SGM:rt/mls

Enclosure(s)
cc: Environmental Inspector
Environmental Inspector Supervisor
EPA Region III

WRD 2A-82

STATE OF WEST VIRGINIA
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT

Final Order Limitations
Year Round

FACILITY NAME: (WASHINGTON WORKS) E I DUPONT DE NEMOURS & CO
LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 002
WASTELOAD FOR THE MONTH OF:

CERTIFIED LABORATORY NAME:
CERTIFIED LABORATORY ADDRESS:
INDIVIDUAL PERFORMING ANALYSIS:

Parameter		Quantity				Other Units						Measurement Frequency	Sample Type
				Units	N.E.				CEL*	Units	N.E.		
50050 (ML-1) RF-A	Reported												
Flow,in Conduit or thru plant	Permit Limits	N/A	N/A			N/A	15.4 Avg. Monthly	15.9 Max. Daily	N/A	mgd		1/week	measured
Year Round													
00310 (ML-1) RF-A	Reported												
BOD, 5-Day 20 Deg.C	Permit Limits	632 Avg. Monthly	1681 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	mg/l		1/week	24 hr Composite
Year Round													
00530 (ML-2) RF-A	Reported												
Total Suspended Solids	Permit Limits	1879 Avg. Monthly	5112 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	mg/l		1/week	24 hr Composite
Year Round													
00530 (ML-1) RF-A	Reported												
Total Suspended Solids	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	mg/l		1/week	24 hr Composite
Year Round													
00400 (ML-1) RF-A	Reported												
pH	Permit Limits	N/A	N/A			Rpt Only Inst. Min.	N/A	Rpt Only Inst. Max.	N/A	S.U.		Continuous	Recorded
Year Round													
00610 (ML-1) RF-A	Reported												
Ammonia Nitrogen	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	mg/l		1/week	24 hr Composite
Year Round													
50060 (ML-1) RF-A	Reported												
Chlorine, Total Residual	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	39 Avg. Monthly	79 Max. Daily	100	ug/l		1/week	Grab
Year Round													
00940 (ML-1) RF-A	Reported												
Chloride (as Cl)	Permit Limits	48000 Avg. Monthly	72000 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	mg/l		1/week	24 hr Composite
Year Round													

* CEL = Compliance Evaluation Level

Name of Principal Executive Officer	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of a fine and imprisonment for knowing violations.	Date Completed
Title of Officer		Signature of Principal Executive Officer or Authorized Agent

WRD 2A-82

STATE OF WEST VIRGINIA
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT

Final Order Limitations
Year Round

FACILITY NAME: (WASHINGTON WORKS) E I DUPONT DE NEMOURS & CO
LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 002
WASTELOAD FOR THE MONTH OF:

CERTIFIED LABORATORY NAME:
CERTIFIED LABORATORY ADDRESS:
INDIVIDUAL PERFORMING ANALYSIS:

Parameter		Quantity		Units	N.E.	Other Units			CEL*	Units	N.E.	Measurement Frequency	Sample Type
34423 (ML-1) RF-A	Reported												
Methylene Chloride	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		1/month	Grab
Year Round													
82581 (ML-1) RF-A	Reported												
pH, No. of Excursions >60 min.	Permit Limits	N/A	0 Max. Daily	Ocur/Mon		N/A	N/A	N/A	N/A			Continuous	Continuous
Year Round													
82582 (ML-1) RF-A	Reported												
pH Excursions Total Time	Permit Limits	N/A	N/A			N/A	N/A	446 Monthly Total	N/A	Minutes		Continuous	Continuous
Year Round													
39175 (ML-1) RF-G	Reported												
Vinyl Chloride	Permit Limits	2.66 Avg. Monthly	4.72 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													
39180 (ML-1) RF-B	Reported												
Trichloroethylene	Permit Limits	0.71 Avg. Monthly	1.89 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		1/quarter	Grab
Year Round													
39700 (ML-1) RF-G	Reported												
Hexachlorobenzene	Permit Limits	5.38 Avg. Monthly	21.79 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34030 (ML-1) RF-G	Reported												
Benzene	Permit Limits	1.56 Avg. Monthly	3.68 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													
34571 (ML-1) RF-G	Reported												
1,4-Dichlorobenzene	Permit Limits	3.9 Avg. Monthly	10.43 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													

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STATE OF WEST VIRGINIA
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT

Final Order Limitations
Year Round

FACILITY NAME: (WASHINGTON WORKS) E I DUPONT DE NEMOURS & CO
LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 002
WASTELOAD FOR THE MONTH OF:

CERTIFIED LABORATORY NAME:
CERTIFIED LABORATORY ADDRESS:
INDIVIDUAL PERFORMING ANALYSIS:

Parameter		Quantity				Other Units						Measurement Frequency	Sample Type
				Units	N.E.				CEL*	Units	N.E.		
34591 (ML-1) RF-G	Reported												
2-Nitrophenol	Permit Limits	1.78 Avg. Monthly	6.34 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34616 (ML-1) RF-G	Reported												
2,4-Dinitrophenol	Permit Limits	33.12 Avg. Monthly	117.75 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34646 (ML-1) RF-G	Reported												
4-Nitrophenol	Permit Limits	4.45 Avg. Monthly	15.81 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34657 (ML-1) RF-G	Reported												
4,6-Dinitro-o-cresol	Permit Limits	2.14 Avg. Monthly	7.6 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34469 (ML-1) RF-G	Reported												
Pyrene	Permit Limits	0.55 Avg. Monthly	1.32 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34475 (ML-1) RF-G	Reported												
Tetrachloroethylene	Permit Limits	1.43 Avg. Monthly	4.5 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													
34496 (ML-1) RF-G	Reported												
1,1 Dichloroethane	Permit Limits	0.6 Avg. Monthly	1.62 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													
34501 (ML-1) RF-G	Reported												
1,1-Dichloroethylene	Permit Limits	0.6 Avg. Monthly	1.65 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													

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Year Round

FACILITY NAME: (WASHINGTON WORKS) E I DUPONT DE NEMOURS & CO
LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 002
WASTELOAD FOR THE MONTH OF:

CERTIFIED LABORATORY NAME:
CERTIFIED LABORATORY ADDRESS:
INDIVIDUAL PERFORMING ANALYSIS:

Parameter		Quantity		Units	N.E.	Other Units			CEL*	Units	N.E.	Measurement Frequency	Sample Type
34526 (ML-1) RF-G	Reported												
Benzo (A) Anthracene	Permit Limits	0.52 Avg. Monthly	1.29 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34536 (ML-1) RF-G	Reported												
1,2-Dichlorobenzene	Permit Limits	5.38 Avg. Monthly	21.7 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34546 (ML-1) RF-G	Reported												
1,2-Trans-Dichloroethylene	Permit Limits	0.69 Avg. Monthly	1.81 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													
34551 (ML-1) RF-G	Reported												
1,2,4-Trichlorobenzene	Permit Limits	5.38 Avg. Monthly	21.79 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34566 (ML-1) RF-G	Reported												
1,3-Dichlorobenzene	Permit Limits	3.9 Avg. Monthly	10.43 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34320 (ML-1) RF-G	Reported												
Chrysene	Permit Limits	0.52 Avg. Monthly	1.29 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34336 (ML-1) RF-G	Reported												
Diethyl Phthalate	Permit Limits	1.26 Avg. Monthly	3.1 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34341 (ML-1) RF-G	Reported												
Dimethyl Phthalate	Permit Limits	0.52 Avg. Monthly	1.29 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													

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Year Round

FACILITY NAME: (WASHINGTON WORKS) E I DUPONT DE NEMOURS & CO
LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 002
WASTELOAD FOR THE MONTH OF:

CERTIFIED LABORATORY NAME:
CERTIFIED LABORATORY ADDRESS:
INDIVIDUAL PERFORMING ANALYSIS:

Parameter		Quantity		Units	N.E.	Other Units			CEL*	Units	N.E.	Measurement Frequency	Sample Type
34376 (ML-1) RF-G	Reported												
Fluoranthene	Permit Limits	0.6	1.48	Lbs/Day		N/A	Rpt Only	Rpt Only	N/A	ug/l		Once/5 years	24 hr
Year Round		Avg. Monthly	Max. Daily				Avg. Monthly	Max. Daily					Composite
34381 (ML-1) RF-G	Reported												
Fluorene	Permit Limits	0.52	1.29	Lbs/Day		N/A	Rpt Only	Rpt Only	N/A	ug/l		Once/5 years	24 hr
Year Round		Avg. Monthly	Max. Daily				Avg. Monthly	Max. Daily					Composite
34396 (ML-1) RF-G	Reported												
Hexachloroethane	Permit Limits	5.38	21.79	Lbs/Day		N/A	Rpt Only	Rpt Only	N/A	ug/l		Once/5 years	24 hr
Year Round		Avg. Monthly	Max. Daily				Avg. Monthly	Max. Daily					Composite
34418 (ML-1) RF-A	Reported												
Methyl Chloride	Permit Limits	Rpt Only	Rpt Only	Lbs/Day		N/A	Rpt Only	Rpt Only	N/A	ug/l		1/month	Grab
Year Round		Avg. Monthly	Max. Daily				Avg. Monthly	Max. Daily					
34447 (ML-1) RF-G	Reported												
Nitrobenzene	Permit Limits	61.39	175.68	Lbs/Day		N/A	Rpt Only	Rpt Only	N/A	ug/l		Once/5 years	24 hr
Year Round		Avg. Monthly	Max. Daily				Avg. Monthly	Max. Daily					Composite
34461 (ML-1) RF-G	Reported												
Phenanthrene	Permit Limits	0.52	1.29	Lbs/Day		N/A	Rpt Only	Rpt Only	N/A	ug/l		Once/5 years	24 hr
Year Round		Avg. Monthly	Max. Daily				Avg. Monthly	Max. Daily					Composite
34200 (ML-1) RF-G	Reported												
Acenaphthylene	Permit Limits	0.52	1.29	Lbs/Day		N/A	Rpt Only	Rpt Only	N/A	ug/l		Once/5 years	24 hr
Year Round		Avg. Monthly	Max. Daily				Avg. Monthly	Max. Daily					Composite
34205 (ML-1) RF-G	Reported												
Acenaphthene	Permit Limits	0.52	1.29	Lbs/Day		N/A	Rpt Only	Rpt Only	N/A	ug/l		Once/5 years	24 hr
Year Round		Avg. Monthly	Max. Daily				Avg. Monthly	Max. Daily					Composite

* CEL = Compliance Evaluation Level

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FACILITY NAME: (WASHINGTON WORKS) E I DUPONT DE NEMOURS & CO
LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 002
WASTELOAD FOR THE MONTH OF:

CERTIFIED LABORATORY NAME:
CERTIFIED LABORATORY ADDRESS:
INDIVIDUAL PERFORMING ANALYSIS:

Parameter		Quantity				Other Units						Measurement Frequency	Sample Type
				Units	N.E.				CEL*	Units	N.E.		
34215 (ML-1) RF-G	Reported												
Acrylonitrile	Permit Limits	2.58 Avg. Monthly	6.37 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													
34220 (ML-1) RF-G	Reported												
Anthracene	Permit Limits	0.52 Avg. Monthly	1.29 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34242 (ML-1) RF-G	Reported												
Benzo (K) Fluoranthene	Permit Limits	0.52 Avg. Monthly	1.29 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34247 (ML-1) RF-G	Reported												
Benzo (A) Pyrene	Permit Limits	0.55 Avg. Monthly	1.32 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34301 (ML-1) RF-G	Reported												
Chlorobenzene	Permit Limits	3.9 Avg. Monthly	10.43 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													
34506 (ML-1) RF-G	Reported												
1,1,1-Trichloroethane	Permit Limits	0.6 Avg. Monthly	1.62 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													
34511 (ML-1) RF-G	Reported												
1,1,2-Trichloroethane	Permit Limits	0.88 Avg. Monthly	3.49 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													
34541 (ML-1) RF-G	Reported												
1,2-Dichloropropane	Permit Limits	5.38 Avg. Monthly	21.79 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													

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LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 002
WASTELOAD FOR THE MONTH OF:

CERTIFIED LABORATORY NAME:
CERTIFIED LABORATORY ADDRESS:
INDIVIDUAL PERFORMING ANALYSIS:

Parameter		Quantity		Units	N.E.	Other Units			CEL*	Units	N.E.	Measurement Frequency	Sample Type
34606 (ML-1) RF-G	Reported												
2,4-Dimethylphenol	Permit Limits	0.52 Avg. Monthly	1.29 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
39110 (ML-1) RF-G	Reported												
Di-n-butyl Phthalate	Permit Limits	0.55 Avg. Monthly	1.18 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
22456 (ML-1) RF-G	Reported												
Total PAH	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
32103 (ML-1) RF-G	Reported												
1,2-Dichloroethane	Permit Limits	4.94 Avg. Monthly	15.75 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													
34694 (ML-1) RF-G	Reported												
Phenol, Single Compound	Permit Limits	0.52 Avg. Monthly	1.29 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
39117 (ML-1) RF-G	Reported												
Phthalate Esters	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
79531 (ML-1) RF-G	Reported												
3,4 Benzofluoranthene	Permit Limits	0.55 Avg. Monthly	1.32 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
85811 (ML-1) RF-G	Reported												
Chloroethane	Permit Limits	3.02 Avg. Monthly	8.1 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													

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Name of Principal Executive Officer	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of a fine and imprisonment for knowing violations.	Date Completed
Title of Officer		Signature of Principal Executive Officer or Authorized Agent

WRD 2A-82

STATE OF WEST VIRGINIA
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT

Final Order Limitations
Year Round

FACILITY NAME: (WASHINGTON WORKS) E I DUPONT DE NEMOURS & CO
LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 002
WASTELOAD FOR THE MONTH OF:

CERTIFIED LABORATORY NAME:
CERTIFIED LABORATORY ADDRESS:
INDIVIDUAL PERFORMING ANALYSIS:

Parameter		Quantity				Other Units						Measurement Frequency	Sample Type
				Units	N.E.				CEL*	Units	N.E.		
01012 (ML-1) RF-G Beryllium, Total (as Be) Year Round	Reported			Lbs/Day					N/A	ug/l		Once/5 years	24 hr Composite
	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily					
78456 (ML-1) RF-A Other, Halomethanes Year Round	Reported			Lbs/Day					N/A	ug/l		1/month	Calculated
	Permit Limits	0.1 Avg. Monthly	0.19 Max. Daily			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily					
34010 (ML-1) RF-B Toluene Year Round	Reported			Lbs/Day					N/A	ug/l		1/quarter	Grab
	Permit Limits	0.77 Avg. Monthly	2.03 Max. Daily			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily					
32730 (ML-1) RF-G Phenolics, Total Recoverable Year Round	Reported			Lbs/Day					N/A	ug/l		Once/5 years	Grab
	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily					
34371 (ML-1) RF-G Ethylbenzene Year Round	Reported			Lbs/Day					N/A	ug/l		Once/5 years	Grab
	Permit Limits	3.9 Avg. Monthly	10.43 Max. Daily			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily					
34696 (ML-1) RF-G Naphthalene Year Round	Reported			Lbs/Day					N/A	ug/l		Once/5 years	24 hr Composite
	Permit Limits	0.52 Avg. Monthly	1.29 Max. Daily			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily					
39100 (ML-1) RF-G BIS(2-Ethylhexyl) Phthalate Year Round	Reported			Lbs/Day					N/A	ug/l		Once/5 years	24 hr Composite
	Permit Limits	2.61 Avg. Monthly	7.08 Max. Daily			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily					
00680 (ML-1) RF-A Total Organic Carbon Year Round	Reported			Lbs/Day					N/A	mg/l		1/month	24 hr Composite
	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily					

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Title of Officer		Signature of Principal Executive Officer or Authorized Agent

WRD 2A-82

STATE OF WEST VIRGINIA
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT

Final Order Limitations
Year Round

FACILITY NAME: (WASHINGTON WORKS) E I DUPONT DE NEMOURS & CO
LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 002
WASTELOAD FOR THE MONTH OF:

CERTIFIED LABORATORY NAME:
CERTIFIED LABORATORY ADDRESS:
INDIVIDUAL PERFORMING ANALYSIS:

Parameter		Quantity				Other Units						Measurement Frequency	Sample Type
				Units	N.E.				CEL*	Units	N.E.		
32102 (ML-1) RF-G Carbon Tetrachloride Year Round	Reported			Lbs/Day					N/A	ug/l		Once/5 years	Grab
	Permit Limits	3.9 Avg. Monthly	10.43 Max. Daily			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily					
32106 (ML-1) RF-B Chloroform Year Round	Reported			Lbs/Day					N/A	ug/l		1/quarter	Grab
	Permit Limits	3.05 Avg. Monthly	8.92 Max. Daily			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily					
81017 (ML-1) RF-B Chem. Oxygen Demand Year Round	Reported			Lbs/Day					N/A	mg/l		1/quarter	24 hr Composite
	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily					
51044 (ML-1) RF-G 1,3 Dichloropropylene Year Round	Reported			Lbs/Day					N/A	ug/l		Once/5 years	Grab
	Permit Limits	5.38 Avg. Monthly	21.79 Max. Daily			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily					
34391 (ML-1) RF-G Hexachlorobutadiene Year Round	Reported			Lbs/Day					N/A	ug/l		Once/5 years	24 hr Composite
	Permit Limits	3.9 Avg. Monthly	10.43 Max. Daily			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily					
51065 (ML-1) RF-A Ammonium Perfluorooctanoate Year Round	Reported			Lbs/Day					N/A	ug/l		1/month	Grab
	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily					
51715 (ML-1) RF-A C3 Dimer Acid/Salt Year Round	Reported								N/A	ug/l		1/week	24 hr Composite
	Order Limits	N/A	N/A			N/A	77 Avg. Monthly	112 Max. Daily					
									N/A				

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Title of Officer		Signature of Principal Executive Officer or Authorized Agent

WRD 2A-82

STATE OF WEST VIRGINIA
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT

Final Order Limitations
Year Round

FACILITY NAME: (WASHINGTON WORKS) E I DUPONT DE NEMOURS & CO
LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 005
WASTELOAD FOR THE MONTH OF:

CERTIFIED LABORATORY NAME:
CERTIFIED LABORATORY ADDRESS:
INDIVIDUAL PERFORMING ANALYSIS:

Parameter		Quantity		Units	N.E.	Other Units			CEL*	Units	N.E.	Measurement Frequency	Sample Type
50050 (ML-1) RF-A Flow,in Conduit or thru plant Year Round	Reported												
	Permit Limits	N/A	N/A			N/A	59.07 Avg. Monthly	63.25 Max. Daily	N/A	mgd		1/week	measured
00310 (ML-1) RF-A BOD, 5-Day 20 Deg.C Year Round	Reported												
	Permit Limits	1149 Avg. Monthly	3029 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	mg/l		1/week	24 hr Composite
00530 (ML-2) RF-A Total Suspended Solids Year Round	Reported												
	Permit Limits	5101 Avg. Monthly	12190 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	mg/l		1/week	24 hr Composite
00530 (ML-1) RF-A Total Suspended Solids Year Round	Reported												
	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	mg/l		1/week	24 hr Composite
00400 (ML-1) RF-A pH Year Round	Reported												
	Permit Limits	N/A	N/A			6 Inst. Min.	N/A	9 Inst. Max.	N/A	S.U.		1/daily	Grab
50060 (ML-1) RF-A Chlorine, Total Residual Year Round	Reported												
	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	98 Avg. Monthly	196 Max. Daily	100	ug/l		1/week	Grab
34423 (ML-1) RF-B Methylene Chloride Year Round	Reported												
	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		1/quarter	Grab
39175 (ML-1) RF-G Vinyl Chloride Year Round	Reported												
	Permit Limits	4.12 Avg. Monthly	8.68 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab

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WRD 2A-82

STATE OF WEST VIRGINIA
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT

Final Order Limitations
Year Round

FACILITY NAME: (WASHINGTON WORKS) E I DUPONT DE NEMOURS & CO
LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 005
WASTELOAD FOR THE MONTH OF:

CERTIFIED LABORATORY NAME:
CERTIFIED LABORATORY ADDRESS:
INDIVIDUAL PERFORMING ANALYSIS:

Parameter		Quantity				Other Units						Measurement Frequency	Sample Type
				Units	N.E.				CEL*	Units	N.E.		
39180 (ML-1) RF-B Trichloroethylene Year Round	Reported			Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		1/quarter	Grab
	Permit Limits	0.99 Avg. Monthly	2.6 Max. Daily										
39700 (ML-1) RF-G Hexachlorobenzene Year Round	Reported			Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
	Permit Limits	5.14 Avg. Monthly	20.28 Max. Daily										
34030 (ML-1) RF-G Benzene Year Round	Reported			Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
	Permit Limits	2.03 Avg. Monthly	5.57 Max. Daily										
34571 (ML-1) RF-G 1,4-Dichlorobenzene Year Round	Reported			Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
	Permit Limits	3.79 Avg. Monthly	9.95 Max. Daily										
34586 (ML-1) RF-G 2-Chlorophenol Year Round	Reported			Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
	Permit Limits	0.51 Avg. Monthly	1.61 Max. Daily										
34591 (ML-1) RF-G 2-Nitrophenol Year Round	Reported			Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
	Permit Limits	2.29 Avg. Monthly	6.9 Max. Daily										
34601 (ML-1) RF-G 2,4-Dichlorophenol Year Round	Reported			Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
	Permit Limits	0.64 Avg. Monthly	1.83 Max. Daily										
34611 (ML-1) RF-G 2,4-Dinitrotoluene Year Round	Reported			Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
	Permit Limits	1.85 Avg. Monthly	4.67 Max. Daily										

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WRD 2A-82

STATE OF WEST VIRGINIA
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT

Final Order Limitations
Year Round

FACILITY NAME: (WASHINGTON WORKS) E I DUPONT DE NEMOURS & CO
LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 005
WASTELOAD FOR THE MONTH OF:

CERTIFIED LABORATORY NAME:
CERTIFIED LABORATORY ADDRESS:
INDIVIDUAL PERFORMING ANALYSIS:

Parameter		Quantity		Units	N.E.	Other Units			CEL*	Units	N.E.	Measurement Frequency	Sample Type
34616 (ML-1) RF-G	Reported												
2,4-Dinitrophenol	Permit Limits	31.29 Avg. Monthly	109.12 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34626 (ML-1) RF-G	Reported												
2,6-Dinitrotoluene	Permit Limits	4.18 Avg. Monthly	10.5 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34646 (ML-1) RF-G	Reported												
4-Nitrophenol	Permit Limits	5.22 Avg. Monthly	16.41 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34657 (ML-1) RF-G	Reported												
4,6-Dinitro-o-cresol	Permit Limits	3.23 Avg. Monthly	11.45 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34469 (ML-1) RF-G	Reported												
Pyrene	Permit Limits	0.91 Avg. Monthly	2.3 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34475 (ML-1) RF-G	Reported												
Tetrachloroethylene	Permit Limits	1.66 Avg. Monthly	5.82 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													
34496 (ML-1) RF-G	Reported												
1,1 Dichloroethane	Permit Limits	0.91 Avg. Monthly	2.44 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													
34501 (ML-1) RF-G	Reported												
1,1-Dichloroethylene	Permit Limits	0.81 Avg. Monthly	1.91 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													

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STATE OF WEST VIRGINIA
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT

Final Order Limitations
Year Round

FACILITY NAME: (WASHINGTON WORKS) E I DUPONT DE NEMOURS & CO
LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 005
WASTELOAD FOR THE MONTH OF:

CERTIFIED LABORATORY NAME:
CERTIFIED LABORATORY ADDRESS:
INDIVIDUAL PERFORMING ANALYSIS:

Parameter		Quantity				Other Units						Measurement Frequency	Sample Type
				Units	N.E.				CEL*	Units	N.E.		
34526 (ML-1) RF-G	Reported												
Benzo (A) Anthracene	Permit Limits	0.83 Avg. Monthly	2.14 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34536 (ML-1) RF-G	Reported												
1,2-Dichlorobenzene	Permit Limits	6.15 Avg. Monthly	22.49 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34546 (ML-1) RF-G	Reported												
1,2-Trans-Dichloroethylene	Permit Limits	0.96 Avg. Monthly	2.53 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													
34551 (ML-1) RF-G	Reported												
1,2,4-Trichlorobenzene	Permit Limits	6 Avg. Monthly	22.11 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34566 (ML-1) RF-G	Reported												
1,3-Dichlorobenzene	Permit Limits	4.05 Avg. Monthly	10.21 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34320 (ML-1) RF-G	Reported												
Chrysene	Permit Limits	0.83 Avg. Monthly	2.14 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34336 (ML-1) RF-G	Reported												
Diethyl Phthalate	Permit Limits	2.48 Avg. Monthly	6.14 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34341 (ML-1) RF-G	Reported												
Dimethyl Phthalate	Permit Limits	0.78 Avg. Monthly	1.94 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													

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STATE OF WEST VIRGINIA
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT

Final Order Limitations
Year Round

FACILITY NAME: (WASHINGTON WORKS) E I DUPONT DE NEMOURS & CO
LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 005
WASTELOAD FOR THE MONTH OF:

CERTIFIED LABORATORY NAME:
CERTIFIED LABORATORY ADDRESS:
INDIVIDUAL PERFORMING ANALYSIS:

Parameter		Quantity		Units	N.E.	Other Units			CEL*	Units	N.E.	Measurement Frequency	Sample Type
34376 (ML-1) RF-G	Reported												
Fluoranthene	Permit Limits	0.96 Avg. Monthly	2.46 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34381 (ML-1) RF-G	Reported												
Fluorene	Permit Limits	0.83 Avg. Monthly	2.08 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34396 (ML-1) RF-G	Reported												
Hexachloroethane	Permit Limits	5.23 Avg. Monthly	20.7 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34418 (ML-1) RF-B	Reported												
Methyl Chloride	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		1/quarter	Grab
Year Round													
34447 (ML-1) RF-G	Reported												
Nitrobenzene	Permit Limits	56.28 Avg. Monthly	160.92 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34461 (ML-1) RF-G	Reported												
Phenanthrene	Permit Limits	0.83 Avg. Monthly	2.14 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34200 (ML-1) RF-G	Reported												
Acenaphthylene	Permit Limits	0.83 Avg. Monthly	2.14 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
34205 (ML-1) RF-G	Reported												
Acenaphthene	Permit Limits	0.83 Avg. Monthly	2.14 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													

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Name of Principal Executive Officer	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of a fine and imprisonment for knowing violations.	Date Completed
Title of Officer		Signature of Principal Executive Officer or Authorized Agent

WRD 2A-82

STATE OF WEST VIRGINIA
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT

Final Order Limitations
Year Round

FACILITY NAME: (WASHINGTON WORKS) E I DUPONT DE NEMOURS & CO
LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 005
WASTELOAD FOR THE MONTH OF:

CERTIFIED LABORATORY NAME:
CERTIFIED LABORATORY ADDRESS:
INDIVIDUAL PERFORMING ANALYSIS:

Parameter		Quantity				Other Units						Measurement Frequency	Sample Type
				Units	N.E.				CEL*	Units	N.E.		
34215 (ML-1) RF-G Acrylonitrile Year Round	Reported			Lbs/Day					N/A	ug/l		Once/5 years	Grab
	Permit Limits	3.92 Avg. Monthly	9.75 Max. Daily			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily					
34220 (ML-1) RF-G Anthracene Year Round	Reported			Lbs/Day					N/A	ug/l		Once/5 years	24 hr Composite
	Permit Limits	0.83 Avg. Monthly	2.14 Max. Daily			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily					
34242 (ML-1) RF-G Benzo (K) Fluoranthene Year Round	Reported			Lbs/Day					N/A	ug/l		Once/5 years	24 hr Composite
	Permit Limits	0.83 Avg. Monthly	2.14 Max. Daily			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily					
34247 (ML-1) RF-G Benzo (A) Pyrene Year Round	Reported			Lbs/Day					N/A	ug/l		Once/5 years	24 hr Composite
	Permit Limits	0.88 Avg. Monthly	2.2 Max. Daily			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily					
34301 (ML-1) RF-G Chlorobenzene Year Round	Reported			Lbs/Day					N/A	ug/l		Once/5 years	Grab
	Permit Limits	3.79 Avg. Monthly	9.95 Max. Daily			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily					
34506 (ML-1) RF-G 1,1,1-Trichloroethane Year Round	Reported			Lbs/Day					N/A	ug/l		Once/5 years	Grab
	Permit Limits	0.89 Avg. Monthly	2.35 Max. Daily			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily					
34511 (ML-1) RF-G 1,1,2-Trichloroethane Year Round	Reported			Lbs/Day					N/A	ug/l		Once/5 years	Grab
	Permit Limits	1.14 Avg. Monthly	4.05 Max. Daily			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily					
34541 (ML-1) RF-G 1,2-Dichloropropane Year Round	Reported			Lbs/Day					N/A	ug/l		Once/5 years	Grab
	Permit Limits	7.4 Avg. Monthly	23.59 Max. Daily			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily					

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WRD 2A-82

STATE OF WEST VIRGINIA
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT

Final Order Limitations
Year Round

FACILITY NAME: (WASHINGTON WORKS) E I DUPONT DE NEMOURS & CO
LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 005
WASTELOAD FOR THE MONTH OF:

CERTIFIED LABORATORY NAME:
CERTIFIED LABORATORY ADDRESS:
INDIVIDUAL PERFORMING ANALYSIS:

Parameter		Quantity		Units	N.E.	Other Units			CEL*	Units	N.E.	Measurement Frequency	Sample Type
34606 (ML-1) RF-G 2,4-Dimethylphenol Year Round	Reported			Lbs/Day					N/A	ug/l		Once/5 years	24 hr Composite
	Permit Limits	0.76 Avg. Monthly	1.76 Max. Daily			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily					
39110 (ML-1) RF-G Di-n-butyl Phthalate Year Round	Reported			Lbs/Day					N/A	ug/l		Once/5 years	24 hr Composite
	Permit Limits	0.94 Avg. Monthly	2 Max. Daily			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily					
22456 (ML-1) RF-G Total PAH Year Round	Reported			Lbs/Day					N/A	ug/l		Once/5 years	24 hr Composite
	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily					
32103 (ML-1) RF-G 1,2-Dichloroethane Year Round	Reported			Lbs/Day					N/A	ug/l		Once/5 years	Grab
	Permit Limits	5.6 Avg. Monthly	17.79 Max. Daily			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily					
34694 (ML-1) RF-G Phenol, Single Compound Year Round	Reported			Lbs/Day					N/A	ug/l		Once/5 years	24 hr Composite
	Permit Limits	0.72 Avg. Monthly	1.6 Max. Daily			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily					
39117 (ML-1) RF-G Phthalate Esters Year Round	Reported			Lbs/Day					N/A	ug/l		Once/5 years	24 hr Composite
	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily					
79531 (ML-1) RF-G 3,4 Benzofluoranthene Year Round	Reported			Lbs/Day					N/A	ug/l		Once/5 years	24 hr Composite
	Permit Limits	0.88 Avg. Monthly	2.2 Max. Daily			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily					
85811 (ML-1) RF-G Chloroethane Year Round	Reported			Lbs/Day					N/A	ug/l		Once/5 years	Grab
	Permit Limits	4.45 Avg. Monthly	11.75 Max. Daily			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily					

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WRD 2A-82

STATE OF WEST VIRGINIA
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT

Final Order Limitations
Year Round

FACILITY NAME: (WASHINGTON WORKS) E I DUPONT DE NEMOURS & CO
LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 005
WASTELOAD FOR THE MONTH OF:

CERTIFIED LABORATORY NAME:
CERTIFIED LABORATORY ADDRESS:
INDIVIDUAL PERFORMING ANALYSIS:

Parameter		Quantity		Units	N.E.	Other Units			CEL*	Units	N.E.	Measurement Frequency	Sample Type
78456 (ML-1) RF-B	Reported												
Other, Halomethanes	Permit Limits	0.86 Avg. Monthly	1.73 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		1/quarter	Calculated
Year Round													
34010 (ML-1) RF-B	Reported												
Toluene	Permit Limits	1.13 Avg. Monthly	3.16 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		1/quarter	Grab
Year Round													
37371 (ML-1) RF-G	Reported												
Ethyl Benzene	Permit Limits	4.06 Avg. Monthly	11.26 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													
32730 (ML-1) RF-G	Reported												
Phenolics, Total Recoverable	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													
34696 (ML-1) RF-G	Reported												
Naphthalene	Permit Limits	0.83 Avg. Monthly	2.14 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
39100 (ML-1) RF-G	Reported												
BIS(2-Ethylhexyl) Phthalate	Permit Limits	4.06 Avg. Monthly	11.01 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
00680 (ML-1) RF-A	Reported												
Total Organic Carbon	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	mg/l		1/month	24 hr Composite
Year Round													
32102 (ML-1) RF-G	Reported												
Carbon Tetrachloride	Permit Limits	3.83 Avg. Monthly	10.11 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													

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Name of Principal Executive Officer	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of a fine and imprisonment for knowing violations.	Date Completed
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WRD 2A-82

STATE OF WEST VIRGINIA
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT

Final Order Limitations
Year Round

FACILITY NAME: (WASHINGTON WORKS) E I DUPONT DE NEMOURS & CO
LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 005
WASTELOAD FOR THE MONTH OF:

CERTIFIED LABORATORY NAME:
CERTIFIED LABORATORY ADDRESS:
INDIVIDUAL PERFORMING ANALYSIS:

Parameter		Quantity		Units	N.E.	Other Units			CEL*	Units	N.E.	Measurement Frequency	Sample Type
32106 (ML-1) RF-B	Reported												
Chloroform	Permit Limits	3.11 Avg. Monthly	8.86 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		1/quarter	Grab
Year Round													
81017 (ML-1) RF-B	Reported												
Chem. Oxygen Demand	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	mg/l		1/quarter	24 hr Composite
Year Round													
51044 (ML-1) RF-G	Reported												
1,3 Dichloropropylene	Permit Limits	5.36 Avg. Monthly	20.54 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	Grab
Year Round													
34391 (ML-1) RF-G	Reported												
Hexachlorobutadiene	Permit Limits	3.87 Avg. Monthly	10.29 Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		Once/5 years	24 hr Composite
Year Round													
51065 (ML-1) RF-A	Reported												
Ammonium Perfluorooctanoate	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	mg/l		1/month	Grab
Year Round													
51715 (ML-1) RF-A	Reported												
C3 Dimer Acid/Salt	Order Limits	N/A	N/A			N/A	191 Avg. Monthly	278 Max. Daily	N/A	ug/l		1/week	24 hr Composite
Year Round													
									N/A				
									N/A				

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WRD 2A-82

STATE OF WEST VIRGINIA
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT

Final Order Limitations
Year Round

FACILITY NAME: (WASHINGTON WORKS) E I DUPONT DE NEMOURS & CO
LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 102
WASTELOAD FOR THE MONTH OF:

CERTIFIED LABORATORY NAME:
CERTIFIED LABORATORY ADDRESS:
INDIVIDUAL PERFORMING ANALYSIS:

Parameter		Quantity				Other Units						Measurement Frequency	Sample Type
				Units	N.E.				CEL*	Units	N.E.		
50050 (ML-1) RF-A	Reported												
Flow,in Conduit or thru plant	Permit Limits	N/A	N/A			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	mgd		1/month	Estimated
Year Round													
00310 (ML-1) RF-A	Reported												
BOD, 5-Day 20 Deg.C	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	mg/l		1/month	24 hr Composite
Year Round													
00530 (ML-1) RF-A	Reported												
Total Suspended Solids	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	mg/l		1/month	24 hr Composite
Year Round													
00400 (ML-1) RF-A	Reported												
pH	Permit Limits	N/A	N/A			Rpt Only Inst. Min.	N/A	Rpt Only Inst. Max.	N/A	S.U.		1/month	Grab
Year Round													
81017 (ML-1) RF-A	Reported												
Chem. Oxygen Demand	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	mg/l		1/month	24 hr Composite
Year Round													
51065 (ML-1) RF-A	Reported												
Ammonium Perfluorooctanoate	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily	Lbs/Day		N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		1/week	Grab
Year Round													
51715 (ML-1) RF-A	Reported												
C3 Dimer Acid/Salt	Order Limits	N/A	N/A			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		1/week	Grab
Year Round													
51715 (ML-G) RF-A	Reported												
C3 Dimer Acid/Salt	Order Limits	N/A	N/A			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		1/daily	Grab
Year Round													

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STATE OF WEST VIRGINIA
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT

Final Order Limitations
Year Round

FACILITY NAME: (WASHINGTON WORKS) E I DUPONT DE NEMOURS & CO
LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 305
WASTELOAD FOR THE MONTH OF:

CERTIFIED LABORATORY NAME:
CERTIFIED LABORATORY ADDRESS:
INDIVIDUAL PERFORMING ANALYSIS:

Parameter		Quantity				Other Units						Measurement Frequency	Sample Type
				Units	N.E.				CEL*	Units	N.E.		
00310 (ML-1) RF-B BOD, 5-Day 20 Deg.C Year Round	Reported			Lbs/Day								1/quarter	24 hr Composite
	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	mg/l			
00530 (ML-1) RF-B Total Suspended Solids Year Round	Reported			Lbs/Day								1/quarter	24 hr Composite
	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	mg/l			
81017 (ML-1) RF-B Chem. Oxygen Demand Year Round	Reported			Lbs/Day								1/quarter	24 hr Composite
	Permit Limits	Rpt Only Avg. Monthly	Rpt Only Max. Daily			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	mg/l			
51715 (ML-1) RF-A C3 Dimer Acid/Salt Year Round	Reported											1/week	Grab
	Order Limits	N/A	N/A			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l			
51715 (ML-G) RF-A C3 Dimer Acid/Salt Year Round	Reported											1/daily	Grab
	Order Limits	N/A	N/A			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l			
									N/A				
									N/A				
									N/A				

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STATE OF WEST VIRGINIA
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT

Final Order Limitations
Year Round

FACILITY NAME: (WASHINGTON WORKS) E I DUPONT DE NEMOURS & CO
LOCATION OF FACILITY: WASHINGTON; Wood County
PERMIT NO.: WV0001279 OUTLET NO.: 605
WASTELOAD FOR THE MONTH OF:

CERTIFIED LABORATORY NAME:
CERTIFIED LABORATORY ADDRESS:
INDIVIDUAL PERFORMING ANALYSIS:

Parameter		Quantity				Other Units						Measurement Frequency	Sample Type
				Units	N.E.				CEL*	Units	N.E.		
51715 (ML-1) RF-A C3 Dimer Acid/Salt Year Round	Reported												
	Order Limits	N/A	N/A			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		1/week	Grab
51715 (ML-G) RF-A C3 Dimer Acid/Salt Year Round	Reported												
	Order Limits	N/A	N/A			N/A	Rpt Only Avg. Monthly	Rpt Only Max. Daily	N/A	ug/l		1/daily	Grab
									N/A				
									N/A				
									N/A				
									N/A				
									N/A				
									N/A				

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west virginia department of environmental protection

Division of Water and Waste Management
601 57th Street SE
Charleston, WV 25304-2345
Telephone Number: (304) 926-0495
Fax Number: (304) 926-0463

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

January 31, 2012

Mr. D. David Altman
15 E 8th Street, Suite 200
Cincinnati, OH 45202

91 7108 2133 3939 2099 3051

CERTIFIED MAIL RETURN RECEIPT REQUESTED

Re: WV/NPDES Permit No. WV0001279
Consent Order No. 7418 Comments

Dear Mr. Altman:

This correspondence is in response to your comment letter dated December 13, 2011 regarding draft Consent Order No. 7418 for WV/NPDES Permit No. WV0001279 issued to the Dupont - Washington Works facility. Comments are summarized first in bold italics followed by the agency's responses.

1. ***Comment: The order should not allow Dupont to discharge the new compound until all of the treatment upgrades are completed.***

   The existing treatment employed at the facility will provide treatment of the new compound. The additional treatment proposed by the permittee will enhance treatment and allow for less frequent change-outs of activated carbon from the existing carbon bed system. Regardless of the treatment enhancements to be made by the permittee, the effluent limitations for the new compound are effective immediately upon issuance of the consent order and will be protective of the water quality standards and designated uses of the Ohio River.

2. ***Comment: The order shouldn't be issued without explaining the new compound, its effects on people and the environment, its toxicity, and how the DEP arrived at the safety levels and monitoring requirements for the new compound.***

   The new compound (C3 Dimer Acid/Salt) is a new fluoropolymer compound that Dupont is representing as an ultimate replacement for the existing fluoropolymer known as C8 (or PFOA, perfluorooctanoic acid). Dupont entered into a Toxic Substances Control Act

Consent (TSCA) Consent Order with the U.S. EPA in January 2009 which granted Dupont approval, under conditions set forth in the TSCA Consent Order, to manufacture, process, and distribute the new compound. The U.S. EPA TSCA Consent Order prescribed certain requirements and toxicological studies regarding the new compound. In 2011, Dupont provided toxicological data to the WV DEP as well as plans to begin production of the new compound. As noted, the U.S. EPA TSCA Consent Order prescribes certain requirements on Dupont regarding the new compound and those requirements are required to be achieved independent of Consent Order No. 7418 that is proposed by the WV DEP. The WV DEP reviewed the toxicological information provided by Dupont regarding the new compound. Chronic studies which provide data regarding long-term impacts are still being conducted by Dupont on the new compound and are not yet complete. Although such long-term studies are preferable, toxicological data from shorter-term (e.g. subchronic) studies may be used to determine a suitable toxicity criterion, provided an additional safety factor is applied. Thus the agency utilized subchronic (90 day) data developed by DuPont in support of its PMN submission (subsequent to the 2009 TSCA Consent Order), incorporating appropriate safety/uncertainty factors, in order to calculate a risk-based Drinking Water Equivalent Level (DWEL) for the new compound. As a courtesy, the agency has attached a memo prepared by a WV DEP toxicologist which summarizes how the agency arrived at the risk-based DWEL. As the requisite chronic studies are completed in the future, the agency will revisit and revise, as necessary, the value indicated in the WV DEP Consent Order. However, based on the information provided and all other information available at this time, the WV DEP has determined that the requirements imposed will be protective of West Virginia's narrative water quality standards found in 47 CSR 2, Section 3 of the West Virginia Legislative Rules.

3. ***Comment: The proposed Order appears to exceed WV DEP's authority for modifying administratively extended permits.***

As noted in the Consent Order, the permit cannot be currently modified because it has been administratively extended. The agency is continuing to process the reissuance of WV/NPDES Permit No. WV0001279, but does not expect the permit to be reissued in the near future. Therefore, the agency processed this Consent Order as the best available means to address upgrades at the facility and the production of the new compound.

4. ***Comment: The proposed Order relies on Dupont's own interpretation of the 99% efficiency requirement in the U.S. EPA TSCA Order without independent interpretation by WV DEP or confirmation by U.S. EPA.***

Please note that the 99% efficiency requirement is not part of WV DEP's Consent Order and was a requirement determined by the U.S. EPA. Its reference in the WV DEP document was noted as a "Finding of Fact" in order to provide background information regarding prior events. For this reason, the WV DEP cannot provide insight or justification for the requirements in the TSCA Order. Any questions regarding the TSCA

Order should be directed to the U.S. EPA. Please note that the requirements in Consent Order No. 7418 are independent of the requirements in the TSCA Order, but also do not supersede said requirements.

5. ***Comment: A public hearing is requested.***

The agency received three (3) requests for a public hearing regarding the consent order. Based on the limited comments received by the agency and resultant limited requests for a public hearing, the agency has determined that a public hearing is not warranted.

The agency would like to thank you for taking the time to submit comments.

The Division of Water and Waste Management issued Consent Order No. 7418 on January 31, 2012. Thank you for your interest in this order.

Sincerely,

Scott G. Mandirola
Director

Encolsure

cc w/enclosure: U.S. EPA Region 3
Env. Inspector Supervisor
Env. Inspector

Little Hocking Water Association, Inc.
3998 State Route 124
PO Box 188
Little Hocking, OH 45742

west virginia department of environmental protection

Office of Environmental Remediation
131A Peninsula Street
Wheeling, WV 26003
Phone: 304-238-1220/Fax: 304-238-1006

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

MEMORANDUM

To: Yogesh Patel
Matthew Sweeney

From: Lawrence P. Sirinek, Ph.D. LPS

Date: January 31, 2012

Subject: DuPont GenX Toxicity

CC: Pat Campbell
Scott Mandirola
Ken Ellison
Don Martin

I have completed my review of the documentation provided by DuPont regarding the toxicity of GenX Compound A and Compound B. As I requested redacted documents, the identities and chemical differences between the substances were not provided; however, most of the toxicological studies appear to involve compound B. For this reason I have focused my discussion on this compound. The relevance of the different compounds as they relate to permitted discharges should be clarified with DuPont.

With regard to ecological endpoints, I concur with the points provided in the documents provided by DuPont. Thus, 4.2 mg/L, reported as the 21 day NOEC (no observed effect concentration) for *Daphnia magna* seems to be an appropriate endpoint for use in determining discharge levels that would protect aquatic receptors.

With regard to human health effects, there were no data from chronic studies performed in either rats or primates contained in the material provided by DuPont. Chronic studies in both rats and mice are apparently ongoing, however data was not provided. While these data would be preferable, derivation of an appropriate toxicity criterion for human health can be based on a subchronic (90 day) study performed in rats. In this particular study, DuPont indicates a NOAEL (no observed adverse effect level) at 10 mg/kg/day, based on evidence of regenerative anemia in males at 100 mg/kg/d and females at 1000 mg/kg/d. Other effects were reported, but are likely attributable to mechanisms that are often considered irrelevant to potential human toxicity (e.g. PPARα agonists).

With regard to the NOAEL, it must be noted that male rats exposed at this concentration (10 mg/kg/day) did exhibit significant decreases in erythrocyte (red blood cell) counts, hematocrit, and hemoglobin levels that are also indicative of anemia. DuPont considers the anemia

described by these parameters as non-adverse in this group, since the animals lacked evidence of compensatory erythrocyte production (e.g. elevated reticulocyte counts). On the other hand, while the reticulocyte counts were not significantly elevated in this group, there was a clear, dose-dependent trend in the mean reticulocyte count at week 13. Unfortunately it cannot be determined whether continued dosing beyond this time point would have resulted in more dramatic indications of a compensatory response, or whether the impact was sufficiently limited at the 10 mg/kg/day dose, such that no compensatory response was needed. Absent more definitive data, the depressed red cell counts, hematocrit and hemoglobin levels should be sufficient to constitute a health-protective endpoint for purposes of assessing the potential impacts from chronic exposure to the test compound. Additional consideration should be made when results of the chronic study are provided.

On the basis of a revised NOAEL of 0.1 mg/kg/day, and applying relevant uncertainty factors for chronic to subchronic extrapolation (10) and rat to human extrapolation (10), the oral reference dose (RfD_O) = 0.001 mg/kg/day. Based upon this value, a reasonable risk-based drinking water equivalent level (DWEL) assuming total intake of the substance from a contaminated source would be 35µg/L. As discussed in subsequent communications, a source adjustment of 50% could reasonably be applied to this value to allow for potential intake from other sources. Use of this adjustment would result in a final DWEL of 18 µg/L. Based upon the information provided by DuPont, I believe this value would protect both human health and the environment.

I hope this discussion is helpful. Please contact me should you require further discussion or clarification.

west virginia department of environmental protection

Division of Water and Waste Management
601 57th Street SE
Charleston, WV 25304-2345
Telephone Number: (304) 926-0495
Fax Number: (304) 926-0463

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

January 31, 2012

Mr. Joseph K. Kiger
#97 Terra Rosa Drive
Washington, WV 26181

91 7108 2133 3939 2099 3075

CERTIFIED MAIL RETURN RECEIPT REQUESTED

Re: WV/NPDES Permit No. WV0001279
Consent Order No. 7418 Comments

Dear Mr. Kiger:

This correspondence is in response to your comment letter dated December 13, 2011 regarding draft Consent Order No. 7418 for WV/NPDES Permit No. WV0001279 issued to the Dupont - Washington Works facility. Comments are summarized first in bold italics followed by the agency's responses.

1. ***Comment: The order should not allow Dupont to discharge the new compound until all of the treatment upgrades are completed.***

   The existing treatment employed at the facility will provide treatment of the new compound. The additional treatment proposed by the permittee will enhance treatment and allow for less frequent change-outs of activated carbon from the existing carbon bed system. Regardless of the treatment enhancements to be made by the permittee, the effluent limitations for the new compound are effective immediately upon issuance of the consent order and will be protective of the water quality standards and designated uses of the Ohio River.

2. ***Comment: The order shouldn't be issued without explaining the new compound, its effects on people and the environment, its toxicity, and how the DEP arrived at the safety levels and monitoring requirements for the new compound.***

   The new compound (C3 Dimer Acid/Salt) is a new fluoropolymer compound that Dupont is representing as an ultimate replacement for the existing fluoropolymer known as C8 (or PFOA, perfluorooctanoic acid). Dupont entered into a Toxic Substances Control Act Consent (TSCA) Consent Order with the U.S. EPA in January 2009 which granted Dupont approval, under conditions set forth in the TSCA Consent Order, to manufacture, process, and distribute the new compound. The U.S. EPA TSCA Consent Order

prescribed certain requirements and toxicological studies regarding the new compound. In 2011, Dupont provided toxicological data to the WV DEP as well as plans to begin production of the new compound. As noted, the U.S. EPA TSCA Consent Order prescribes certain requirements on Dupont regarding the new compound and those requirements are required to be achieved independent of Consent Order No. 7418 that is proposed by the WV DEP. The WV DEP reviewed the toxicological information provided by Dupont regarding the new compound. Chronic studies which provide data regarding long-term impacts are still being conducted by Dupont on the new compound and are not yet complete. Although such long-term studies are preferable, toxicological data from shorter-term (e.g. subchronic) studies may be used to determine a suitable toxicity criterion, provided an additional safety factor is applied. Thus the agency utilized subchronic (90 day) data developed by DuPont in support of its PMN submission (subsequent to the 2009 TSCA Consent Order), incorporating appropriate safety/uncertainty factors, in order to calculate a risk-based Drinking Water Equivalent Level (DWEL) for the new compound. As a courtesy, the agency has attached a memo prepared by a WV DEP toxicologist which summarizes how the agency arrived at the risk-based DWEL. As the requisite chronic studies are completed in the future, the agency will revisit and revise, as necessary, the value indicated in the WV DEP Consent Order. However, based on the information provided and all other information available at this time, the WV DEP has determined that the requirements imposed will be protective of West Virginia's narrative water quality standards found in 47 CSR 2, Section 3 of the West Virginia Legislative Rules.

3. ***Comment: A public hearing is requested.***

   The agency received three (3) requests for a public hearing regarding the consent order. Based on the limited comments received by the agency and resultant limited requests for a public hearing, the agency has determined that a public hearing is not warranted.

The agency would like to thank you for taking the time to submit comments.

The Division of Water and Waste Management issued Consent Order No. 7418 on January 31, 2012. Thank you for your interest in this order.

Sincerely,

Scott G. Mandirola
Director

Encolsure

cc w/enclosure: U.S. EPA Region 3
Env. Inspector Supervisor
Env. Inspector

west virginia department of environmental protection

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MEMORANDUM

To: Yogesh Patel
Matthew Sweeney

From: Lawrence P. Sirinek, Ph.D. LPS

Date: January 31, 2012

Subject: DuPont GenX Toxicity

CC: Pat Campbell
Scott Mandirola
Ken Ellison
Don Martin

I have completed my review of the documentation provided by DuPont regarding the toxicity of GenX Compound A and Compound B. As I requested redacted documents, the identities and chemical differences between the substances were not provided; however, most of the toxicological studies appear to involve compound B. For this reason I have focused my discussion on this compound. The relevance of the different compounds as they relate to permitted discharges should be clarified with DuPont.

With regard to ecological endpoints, I concur with the points provided in the documents provided by DuPont. Thus, 4.2 mg/L, reported as the 21 day NOEC (no observed effect concentration) for *Daphnia magna* seems to be an appropriate endpoint for use in determining discharge levels that would protect aquatic receptors.

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With regard to the NOAEL, it must be noted that male rats exposed at this concentration (10 mg/kg/day) did exhibit significant decreases in erythrocyte (red blood cell) counts, hematocrit, and hemoglobin levels that are also indicative of anemia. DuPont considers the anemia

described by these parameters as non-adverse in this group, since the animals lacked evidence of compensatory erythrocyte production (e.g. elevated reticulocyte counts). On the other hand, while the reticulocyte counts were not significantly elevated in this group, there was a clear, dose-dependent trend in the mean reticulocyte count at week 13. Unfortunately it cannot be determined whether continued dosing beyond this time point would have resulted in more dramatic indications of a compensatory response, or whether the impact was sufficiently limited at the 10 mg/kg/day dose, such that no compensatory response was needed. Absent more definitive data, the depressed red cell counts, hematocrit and hemoglobin levels should be sufficient to constitute a health-protective endpoint for purposes of assessing the potential impacts from chronic exposure to the test compound. Additional consideration should be made when results of the chronic study are provided.

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January 31, 2012

Jim and Della Tennant
15 Mansion Blvd.
Parkersburg, WV 26101

91 7108 2133 3939 2099 3068

CERTIFIED MAIL RETURN RECEIPT REQUESTED

Re: WV/NPDES Permit No. WV0001279
Consent Order No. 7418 Comments

Dear Mr. and Mrs. Tennant:

This correspondence is in response to your comment letter dated December 13, 2011 regarding draft Consent Order No. 7418 for WV/NPDES Permit No. WV0001279 issued to the Dupont - Washington Works facility. Comments are summarized first in bold italics followed by the agency's responses.

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   The existing treatment employed at the facility will provide treatment of the new compound. The additional treatment proposed by the permittee will enhance treatment and allow for less frequent change-outs of activated carbon from the existing carbon bed system. Regardless of the treatment enhancements to be made by the permittee, the effluent limitations for the new compound are effective immediately upon issuance of the consent order and will be protective of the water quality standards and designated uses of the Ohio River.

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Sincerely,

Scott G. Mandirola
Director

Enclosure

cc w/enclosure: U.S. EPA Region 3
Env. Inspector Supervisor
Env. Inspector

west virginia department of environmental protection

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D.DavidAltmanCo
a legal professional association

VIA EMAIL & U.S. MAIL

Director, Division of Water and Waste Management, West Virginia Department of Environmental Protection
ATTN: Lori Devereux, Permitting Section
601 57th Street SE
Charleston, WV 25304-2345
lori.k.devereux@wv.gov
DEP.Comments@wv.gov

January 3, 2012

Re: Public Notice No.: L-136-11 (Consent Order No. 7418)

Dear Ms. Devereux:

On behalf of my client, the Little Hocking Water Association, Inc.[1], I submit these comments to Order No. 7418 between the West Virginia Department of Environmental Protection and E. I. du Pont de Nemours & Company[2] (Public Notice No. L-136-11). According to the public notice, Consent Order No. 7418 (the "Proposed Order") would allow DuPont to commence commercial-scale production of fluoropolymers using a new compound — C3 Dimer Acid/Salt (CAS #13252-13-6 and CAS # 62037-80-3) (the "New Compound") — and to discharge the New Compound to the environment.[3] While it is tempting to assume that any "substitute" for PFOA is better than PFOA, such a blind bet is not the best option to protect the health, safety, and welfare of the public.

Little Hocking is a rural non-profit water supplier whose water supply is believed to have the highest known PFOA[4] (an analog of the New Compound) levels of any public water supply in the country. In fact, Little Hocking water users who have had their blood tested for PFOA have some of the highest non-worker PFOA blood levels of any reported in the United States to date. Other PFOA-related chemicals are also present in Little Hocking's water supply and in the blood of its water users. It is widely accepted that DuPont's Washington Works Plant is the ultimate source of the PFOA contamination. Indeed, even DuPont recognizes that the PFOA it

[1] Little Hocking's business address and phone number are: 3998 State Rt. 124, PO Box 188, Little Hocking, Ohio 45742 (phone: 740.989.0135). However, any questions regarding these comments should be directed to my office at 513.721.2180.
[2] DuPont
[3] By email dated December 20, 2011, Amy Hartford of my office requested that the comment period for Public Notice No. L-136-11 be extended to January 13, 2012. The extension to January 13 was not granted.
[4] PFOA is also known as C8.

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emits into the air is a source of the PFOA in Little Hocking's water supply. Given its unique position as a "sink" for chemicals released by the Washington Works Plant, Little Hocking has a substantial interest in the New Compound that is the subject of the Proposed Order.

Little Hocking has serious environmental and public health concerns about the Proposed Order because, for example: (1) the New Compound is described by USEPA as an "analog" of PFOA (as stated above, PFOA is already contaminating the wellfield and aquifer of Little Hocking); (2) the USEPA previously expressed concerns that the New Compound will persist in the environment, could bioaccumulate and be toxic to people, mammals, and birds *(i.e.*, has many of the same features as PFOA); and, (3) the Proposed Order would allow DuPont to begin full-scale production of the New Compound before essential treatment upgrades are made to the Washington Works Plant. These concerns are heightened by the lack of information readily available to the public about the environmental and public health threats that may be presented by the New Compound. These comments are more fully set forth below.

The Proposed Order fails to address (or even mention) the human health and environmental concerns raised by USEPA in a 2009 TSCA consent order.

The Proposed Order states that ***DuPont represents*** that the new chemical has a "favorable toxicological profile" and "rapid bioelimination." DuPont's representations appear to directly conflict with the concerns expressed by USEPA in a 2009 TSCA Consent Order (TSCA Order) between DuPont and USEPA.

In fact, in the TSCA Order, USEPA expressed its "concerns that [the New Compound] will persist in the environment, could bioaccumulate, and be toxic...to people, wild mammals, and birds." With respect to bioelimination, USEPA concluded in 2009 that the limited worker biomonitoring performed by DuPont: (1) did not take place over a long enough period of time to see if accumulation occurred and (2) failed to apply an appropriately sensitive limit of detection. Additionally, USEPA stated that "there is high concern for possible environmental effects over the long-term." If any of these issues were resolved, LHWA is unable to locate such resolution.

USEPA further stated that more information on the toxicity and pharmacokinetics of the New Compound was needed based on: (1) the persistence of the New Compound, (2) the toxicity of the New Compound and its analogs (PFOA and PFOS), and (3) the possibility or likelihood that the New Compound may be used as a substitute for a major use of PFOA. USEPA stated that, in particular, additional pharmacokinetic, reproductive, and long-term toxicological testing on the New Compound in animals is warranted. USEPA concluded that the TSCA Order and its limitations on manufacture and disposal of the New Compound would remain in effect until the TSCA Order was modified or revoked by USEPA based on the submission of physical/chemical property testing and environmental fate testing.

The Proposed Order fails to acknowledge, let alone address, the USEPA's prior findings regarding the New Compound. What is more, the Proposed Order fails to mention whether all testing required by the TSCA Order was submitted by DuPont, what the results of the testing were, and whether WVDEP conducted an independent analysis of the environmental and public health threats presented by the New Compound. In short, the public notice process employed by WVDEP in this instance fails to allow for meaningful public input, as the relatively short time for public comment did not allow the public sufficient time to make a public records request, to resolve any disputes over such public records request (including any claims of confidentiality), and to meaningfully review any information obtained pursuant to such a request.

Accordingly, Little Hocking asks that the WVDEP reconsider its issuance of the Proposed Order until after an independent review by WVDEP of, for example, the following: (1) the TSCA Order and its requirements; (2) the data underlying USEPA's prior TSCA findings and conclusions; (3) any testing/studies that DuPont submitted to USEPA in connection with the TSCA Order; and (4) public comments regarding the New Compound. What is more, WVDEP should, due to the significant public health and environmental implications of the New Compound and Proposed Order, communicate the result of this review to the public, and ***hold a public hearing to allow members of the public to present their concerns regarding the New Compound.*** The public hearing should allow members of the public to ask questions of DuPont and WVDEP officials. Finally, the public hearing should be scheduled with sufficient advance notice to allow the public, including Little Hocking, sufficient time to make a public records request, to resolve any disputes concerning the records requests (including any claim of confidentiality), and to review all information obtained as a result of the public records requests.

There appears to have been no review of the impact that use, release, and disposal of the New Compound will have on LHWA's users and its water supply.

As mentioned above, LHWA's water supply is believed to have the highest known PFOA (an analog of the New Compound) levels of any public water supply in the country. Furthermore, LHWA's water users are believed to have some of the highest reported concentrations of PFOA in their blood of any non-worker population. In short, LHWA's members have been chronically exposed to disproportionately high levels of PFOA in drinking water, as evidenced by the PFOA concentrations present in their blood. Yet, there appears to be no consideration of the impacts (for example, interactions between PFOA and the New Compound) that the New Compound may have on a population already chronically exposed to disproportionately high levels of PFOA. Indeed, there is no analysis of potential additive and/or synergistic impacts that may be associated with the interaction of the New Compound with other chemicals (including PFOA).

What is more, the Proposed Order contains no adequate assurance that the New Compound will not end up in the finished drinking water of LHWA, *i.e.*, there is no assurance that the New Compound will be effectively captured by existing carbon filtration.

The WVDEP should not enter into the Proposed Order until the impacts of the New Compound on LHWA's users and water supply are considered and adequate precautions, if necessary, are taken to protect LHWA's users and water supply.

The Proposed Order allows DuPont to begin commercial scale operations using the New Compound before essential treatment upgrades are complete.

The Proposed Order allows commercial production using the New Compound and generation of wastewaters to commence upon execution of the Proposed Order. Yet, construction of wastewater treatment upgrades is not required to begin for as long as 24 months after the effective date of the Proposed Order. Given the human and environmental health questions that remain about the New Compound and in light of the USEPA's conclusion that uncontrolled manufacture and disposal of the New Compound may present an unreasonable risk of injury to human health and the environment, DuPont should at minimum be required to complete the necessary treatment upgrades before commercial scale operations are permitted under the Proposed Order.

The Proposed Order relies on DuPont's own interpretation of the 99% efficiency requirement in the USEPA TSCA Order without independent interpretation by WVDEP or confirmation from USEPA.

The USEPA TSCA Order requires DuPont to "recover and capture (destroy) or recycle the [New Compound] at an overall efficiency of 99% from all the effluent process streams and the air emissions (point source and fugitive)." The Proposed Order provides no information about how and where the substances will be destroyed or recycled once captured, including information about any associated post-treatment effluent discharges.

The Proposed Order states that ***DuPont interprets*** the TSCA Order's 99% efficiency provision to be applied "***in the aggregate*** on an annual basis ***for all sites*** where the new compound is used." In short, DuPont seems to contend that the requirement would allow for averaging across multiple processes/sources and even across multiple DuPont plants. However, DuPont should be required to apply the 99% efficiency requirement to ***each*** source of the New Compound, including effluent process streams and air emissions sources. Requiring 99% efficiency on a source-by-source basis would be consistent with public policy, more protective of human health and the environment than DuPont's interpretation, and be the more natural reading of the 2009 TSCA Order. In addition, DuPont should be required to submit meaningful

information concerning how (including process flow diagrams) and where the substances will be destroyed or recycled once captured, as well as verification testing to ensure that the 99% capture efficiency requirement is being met (but only after WVDEP conducts the independent review discussed above).

The Proposed Order provides no factual findings concerning WVDEP's determination that a concentration of no more than 17.5 ug/l of the New Compound in the receiving stream will be protective of West Virginia's narrative water quality standards.

Releases of other related chemicals, like C8, from DuPont's Washington Works Plant are known to have contaminated local water supplies, including Little Hocking's. Little Hocking, other water suppliers, and local residents have a right to full and complete information on the basis for any discharge limits set by WVDEP. For example, the public is entitled to know information concerning the additive and/or synergistic impacts associated with the New Compound and its analogs, PFOA and PFOS, and the New Compound's time of travel in the environment. Such information should at least be summarized in any proposed consent order and made available for review by the public well in advance of any public hearing concerning the Proposed Order.

The Proposed Order appears to exceed WVDEP's authority for modifying administratively-extended permits.

The Proposed Order explicitly states that, since WVDEP has already administratively extended DuPont's WV/NPDES permit, WVDEP cannot currently modify DuPont's WV/NPDES permit to authorize the activities that are the subject of the Proposed Order. Thus, WVDEP appears to be using the Proposed Order as a means to circumvent applicable permitting rules. The Proposed Order points to no statute, rule, or regulation that provides WVDEP with the authority to enter into a consent order that effectively modifies a permit that is not otherwise allowed to be modified. In fact, adherence to the permitting rules would necessarily result in a more complete and thorough vetting of any health and environmental questions that remain about the New Compound. The Proposed Order should precisely state the legal basis for WVDEP's purported authority for entering the Proposed Order, if any such authority in fact exists. Otherwise, WVDEP and DuPont should adhere to applicable permitting rules.

Please contact me (513.721.2180) if you any questions or concerns about the above.

Very truly yours,

D. David Altman

cc: Kathy Cosco (via e-mail at Kathy.Cosco@wv.gov)
Client

Joseph K. Kiger
#97 Terra Rosa Dr.
Washington,Wv. 26181

December 13th 2011

Lori Devereux
Permitting Section
60157th St. SE.
Charelston , WV. 25304-2345

Dear Ms. Devereux

I am writing this letter as a request for a public hearing on : Public Notice No. L-136-11 placed in the Parkersburg News on November 26,2011. The Consent order applies to Permit No. WV0001297 Order No. 7418.

Permittee: E I DuPont DE NEMOURS & CO.

PO BOX 1217 WASHINGTON ,WV 26181

Location : WASHINGTON , WOOD COUNTY Latitude : 39:16:19

Longitude 81:39:42 Receiving Stream : OHIO RIVER .

My Concerns are as follows : Will this deal allow DuPont to emit a new Perfluorinated chemical (C3) into the river and air for 2 years before DuPont Is required to have its new filter / treatment systems in place for this new Chemical. WVDEP provides no info as to what this new chemical is, what It's toxicity is, what it may do to people / the enviroment, or how it

Calculated the safety levels / monitoring requirements of the permit. These Are the objections I have and why I feel a Public hearing is Very much in Order.

I can be contacted @ Home : 304-863-8264 or my cell phone 304-482-0920

My E-mail is joekiger@suddenlink.net.

Thank you;

Joseph K. Kiger

Joseph K. Kiger

December 10, 2011

Director, Division of Water and Waste Management DEP

ATTN: Lori Devereux, Permitting Section

601 57th Street SE

Charleston, WVA 25304 -2345

ATTN: Lori Devereux

We would like to submit this written comment on the draft order # 7418 Permit # WV0001279. The Public Notice # L-136-11 dated November 26, 2011 in the Parkersburg News did not *explain* what this new compound is that DuPont will be allowed to emit or what it will do to people's health or the environment.

We would like to object to this order # 7418. We do not believe it is right for the WVDEP to allow DuPont to renew this permit and emit a new compound, C3 Dimer Acid /Salt (whatever that is) and dump this into the Ohio River and into the Air, without explaining what the new chemical is, what it may do to people or the environment, or how WVDEP came up with its new safety and monitoring levels. Also, we object to WVDEP proposing to allow DuPont to have a permit to dump this new material into in the Ohio River and air for 2 to 3 years before installing all required new filters and treatment systems. We do request a public hearing on this Consent Order.

Thank You

Jim & Della Tennant Phone # 304-863-5428

15 Mansion BLVD

Parkersburg WVA 26101- 7475

Sent 12 / 13 / 11

Thank You
Jim + Della Tennant
12/13/11

Devereux, Lori K

From: Amy Hartford <ahartford@environlaw.com>
Sent: Tuesday, December 20, 2011 4:44 PM
To: Devereux, Lori K
Cc: Dave Altman; Justin Newman; Amy Hartford
Subject: Request for extension of time to submit comments: Public Notice No. L-136-11

Dear Ms. Devereux,

As you and I briefly discussed this afternoon, I am writing to seek additional time to comment on the proposed administrative consent order between the WVDEP and DuPont (Public Notice No. L-136-11, Order No. 7418). I am requesting that the comment period be extended through January 13, 2012.

Our firm represents the Little Hocking Water Association, Inc. As you likely already know, Little Hocking is a rural non-profit water supplier whose water supply is believed to have the highest known PFOA (or "C8") levels of any public water supply in the country. Other C8-related chemicals are also present in Little Hocking's water supply. It is widely accepted that DuPont's Washington Works Plant is the ultimate source of the C8 contamination. DuPont recognizes that the C8 it emits into the air is a source of the C8 in Little Hocking's water supply.

Given its unique position as a "sink" for chemicals released by the Washington Works Plant, Little Hocking has a substantial interest in the "New Compound" that is the subject of the proposed consent order. The additional time requested is necessary for us to further attempt to obtain and review relevant information concerning the New Compound in order to make complete and informed comments about DuPont's use and release of the New Compound and about the potential impacts on the surrounding communities and water supplies, including Little Hocking. The additional time is also necessary due to the absence of key personnel (who are working on this issue) during the upcoming holidays.

We appreciate your consideration of this request and look forward to hearing from you as soon as possible. Please be sure to copy Justin Newman and David Altman on your response. They are each copied on this request.

Amy M. Hartford
D. David Altman Co., L.P.A.
15 E. 8th Street, Suite 200W
Cincinnati, OH 45202
Phone (513) 721-2180
Fax (513) 721-2299

DATE DRAF'T PREP'D _____ MAJOR _____ MINOR _____

11/26/11 PN DATE

_____ DATE E-MAILED TO PIO

SEND DRAFT TO EPA YES ☐ NO ☐

SEND DRAFT TO ORSANCO YES ☐ NO ☐

DATE RECEIVED AFFIDAVIT ON PN

E I Dupont de Nemours & Co-ORDER No. 7418

FACILITY NAME

yogesh WV0001279

ENGINEER **PERMIT NO.**

Wood

COUNTY PN UP-30 DAYS

PROCESSING 12/26/11

COMMENTS RECEIVED _____

DATE DRAF'T PREP'D _____ MAJOR _____ MINOR _____

_____ PN DATE

_____ DATE E-MAILED TO PIO

SEND DRAFT TO EPA YES ☐ NO ☐

SEND DRAFT TO ORSANCO YES ☐ NO ☐

DATE RECEIVED AFFIDAVIT ON PN

_____

FACILITY NAME

_____ _____

ENGINEER **PERMIT NO.**

_____

COUNTY PN UP-30 DAYS

PROCESSING _____

COMMENTS RECEIVED _____

Classified/Legal Advertising Invoice

The News and Sentinel

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519 Juliana St
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Attn: Gladys Mullins
WV DEPT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER & WASTE MGMT
601 57TH ST SE
CHARLESTON, WV

11/28/2011 4:18:22PM

25304

No: 134072

Phone: 304 926-0495

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134072	L00451	11-26-2011	11-26-2011	Legals	Legals

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Identifier
STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION DIVISION OF WATER AND WASTE MANAGEMENT

Public Notice No: L-136-11
EI DuPont De Nemours & Co

*=Extend Expiration Date

RECEIVED NOV 30 2011

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER AND WASTE MANAGEMENT

PUBLIC NOTICE

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION'S, PUBLIC INFORMATION OFFICE, 601 57TH STREET SE, CHARLESTON, WEST VIRGINIA 25304-2345 TELEPHONE: (304) 926-0440.

INTENT TO ENTER AN ADMINISTRATIVE CONSENT ORDER UNDER THE WEST VIRGINIA WATER POLLUTION CONTROL ACT

Public Notice No.: L-136-11
Public Notice Date: November 26, 2011

Paper: Parkersburg News

The following has been agreed to by The WV Department of Environmental Protection (WVDEP) and E I DuPont Nemours & Co. to the terms and conditions of a Consent Order for this facility or activity:

Permit No.: WV0001279

Order No: 7418

Permittee: E I DUPONT DE NEMOURS & CO
PO BOX 1217
WASHINGTON, WV 26181

Location: WASHINGTON, WOOD COUNTY

Latitude: 39:16:19 **Longitude:** 81:39:42

Receiving Stream:
OHIO RIVER

Activity:
The WV Department of Environmental Protection (WVDEP) and E.I DuPont Nemours & Co. have proposed an Administrative Consent Order that will allow DuPont to begin construction activities in connection with necessary upgrades to the waste water treatment system and to commence commercial scale production using their new patented technology for a new processing aid for the production of high-performance fluoropolymers using a new compound.

Business conducted:
Production of polymer resins; compounded plastics; nylon fibers; formaldehyde; fluorocarbon polymers, monomers, telomers; and calcium fluoride.

Implementation:
Compliance shall be attained through the issuance of Order No. 7418, and any revisions, thereto.

On the basis of review of the application, the "Water Pollution Control Act (Chapter 22, Article 11-8(a))," and the "West Virginia Legislative Rules," the State of West Virginia will act on the above action.

Any interested person may submit written comments on the draft Order and may request a public hearing by addressing such to the Director of the Division of Water and Waste Management within 30 days of the date of this public notice. Such comments or requests should be addressed to:

Director, Division of Water and Waste Management, DEP
ATTN: Lori Devereux, Permitting Section
601 57th Street SE
Charleston, WV 25304-2345

The public comment period begins November 26, 2011 and ends December 26, 2011.

Comments received within this period will be considered prior to acting on the Order. Correspondence should include the name, address, and telephone number of the writer and a concise statement of the nature of the issues rose. The Director shall hold a public hearing whenever a finding is made, on the basis of requests, that there is a significant degree of public interest on issues relevant to the draft Order(s). Interested persons may contact the public information office to obtain further information.

The draft Order and any pertinent data may be inspected, by appointment, at the Division of Water and Waste Management Public Information Office, at 601 57th Street SE, Charleston, WV 25304-2345, between 8:00 a.m. to 4:00 p.m. on business days. Copies of the documents may be obtained from the Division at a nominal cost. Individuals requiring Telecommunication Device (TDD) may contact our agency by calling (304) 926-0493. Calls must be made 8:30 a.m. to 4:30 p.m. Monday through Friday.

Nov 26

.....MARY J BUCK.....

Being first duly sworn, says that the

"PUBLIC NOTICE".....

.....

Hereto attached was printed in the

..XX...The Parkersburg News and Sentinel,

.....The Marietta AM,

A daily newspaper published in the City of Parkersburg, Wood County, West Virginia, for ...ONE.... successive Week(s), the first publication and posting thereon being on the ...26TH.....day of ...NOVEMBER..... 2011..., and subsequent publication on the .....

day (s) of ..... 20.....

Printer's Fee	$..130.00...
Notarized Signature	$.....2.00...
Additional Copy Fee	$.....
Total Due:	$....132.00...

By: Mary J Buck

Subscribed and sworn to before me this

29th day of November 20 11.

Melani Zyla
Notary Public for Wood County, West Virginia

My commission expires 3-23-14

OFFICIAL SEAL
NOTARY PUBLIC, STATE OF WEST VIRGINIA
MELANI ZYLA
1628 - 19th ST, PARKERSBURG, WV 26101
MY COMMISSION EXPIRES MARCH 23, 2014

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER AND WASTE MANAGEMENT

PUBLIC NOTICE

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PO BOX 1217
WASHINGTON, WV 26181

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Director, Division of Water and Waste Management, DEP
ATTN: Lori Devereux, Permitting Section
601 57th Street SE
Charleston, WV 25304-2345

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SPILMAN THOMAS & BATTLE, PLLC
ATTORNEYS AT LAW

Direct Dial: 304-340-3832
kcrockett@spilmanlaw.com

November 21, 2011

VIA HAND DELIVERY

Mr. Yogesh Patel
West Virginia Department of Environmental Protection
601 57th Street, S.E.
Charleston, WV 25304

Re: Executed Draft Consent Order No. 7418

Dear Yogesh,

Please find enclosed for your records the original copy of the above-referenced draft Consent Order, as executed on behalf of E. I. du Pont de Nemours and Company on November 18, 2011.

Should you have any questions, please do not hesitate to call me at (304) 340-3832. Thank you for your continued attention to this matter.

Very truly yours,

M. Katherine Crockett

M. Katherine Crockett

MKC:ksw

Enclosure

west virginia department of environmental protection

Division of Water and Waste Management
601 57th Street SE
Charleston, WV 25304-2345
Telephone Number: (304) 926-0495
Fax Number: (304) 926-0463

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

CONSENT ORDER
ISSUED UNDER THE
WATER POLLUTION CONTROL ACT
WEST VIRGINIA CODE, CHAPTER 22, ARTICLE 11

TO: E. I. du Pont de Nemours and Company
Washington Works
c/o Karl J. Boelter, Plant Manager
P. O. Box 1217
Washington, WV 26181-1217

DATE: DRAFT

ORDER NO.: 7418

INTRODUCTION

This Consent Order is issued by the Director of the Division of Water and Waste Management, Department of Environmental Protection, (hereinafter, the "Director") under the authority of Chapter 22, Article 11, Section 1, *et. seq.* of the Code of West Virginia to E. I. du Pont de Nemours and Company (hereinafter "DuPont").

FINDINGS OF FACT

In support of this Order, the Director hereby finds the following:

1. DuPont operates a multiple product line manufacturing facility and associated industrial wastewater treatment plant located in Washington, Wood County, West Virginia. This facility is known as the Washington Works Plant ("Facility" or the "Plant").

2. This Facility is permitted under WV/NPDES Permit No. WV0001279 (the "Permit"), issued August 4, 2003 to authorize the Plant's point source discharges into the Ohio River or tributaries thereof.

3. In accordance with 47 CSR 10-4.3, DuPont timely applied for renewal of the Permit on December 20, 2007, over 180 days prior to the Permit's scheduled expiration date of June 30, 2008.

UNITED STATES POSTAL SERVICE.

Date: 02/23/2012

lori devereux:

The following is in response to your 02/23/2012 request for delivery information on your Certified Mail(TM) item number 7108 2133 3939 2099 3082. The delivery record shows that this item was delivered on 02/03/2012 at 02:09 PM in WASHINGTON, WV 26181. The scanned image of the recipient information is provided below.

Signature of Recipient: Janet Boston

Janet Boston

Address of Recipient: P.O Box 1217

Thank you for selecting the Postal Service for your mailing needs. If you require additional assistance, please contact your local Post Office or postal representative.

Sincerely,

United States Postal Service

RA
3/10/09

MP
3/11/09

TK
4/9/09

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

OFFICE OF POLLUTION PREVENTION AND TOXICS

REGULATION OF NEW CHEMICAL SUBSTANCES

PENDING DEVELOPMENT OF INFORMATION

In the matter of:	)	Premanufacture Notice Numbers:
	)	
	)	
	)	
	)	
	)	
DuPont Company	)	P-08-508 and P-08-509
	)	
	)	
	)	EPA SANITIZED
	)	
	)	

Consent Order and Determinations Supporting Consent Order

TABLE OF CONTENTS

I. INTRODUCTION

Under the authority of § 5(e) of the Toxic Substances Control Act ("TSCA") (15 U.S.C. 2604(e)), the Environmental Protection Agency ("EPA" or "the Agency") issues the attached Order, regarding premanufacture notices ("PMNs") P-08-508 for the chemical substance [ ] and P-08-509 for the chemical substance [ ] ("the PMN substances") submitted by DuPont Company ("the Company"), to take effect upon expiration of the PMN review period. The Company submitted the PMNs to EPA pursuant to § 5(a)(1) of TSCA and 40 CFR Part 720.

Under § 15 of TSCA, it is unlawful for any person to fail or refuse to comply with any provision of § 5 or any order issued under § 5. Violators may be subject to various penalties and to both criminal and civil liability pursuant to § 16, and to specific enforcement and seizure pursuant to § 17. In addition, chemical substances subject to an Order issued under § 5 of TSCA, such as this one, are subject to the § 12(b) export notice requirement.

II. SUMMARY OF TERMS OF THE ORDER

The Consent Order for these PMN substances requires the Company to:

(a) submit to EPA certain toxicity and pharmacokinetics testing on the PMN substance described in P-08-509 at least 14 weeks before manufacturing or importing a total of [ ] kilograms (kgs) of the two PMN substances (or 2 years, whichever comes later, for two of the studies) and [ ] kgs of the two PMN substances combined;

(b) require any workers who may be exposed to wear impervious gloves and distribute the PMN substances to only those customers that agree to require impervious gloves;

(c) require any workers who may be exposed via inhalation to P-08-508 to wear a respirator with a NIOSH Assigned Protection Factor ("APF") of 3000 and distribute to only those customers that agree to require those respirators;

(d) require any workers who may be exposed via inhalation to P-08-509 to wear an appropriate NIOSH-approved respirator and distribute only to customers that agree to require respirators for any workers reasonably likely to be exposed by inhalation;

(e) as an alternative to using respirators, maintain workplace airborne concentrations of the PMN substances in the United States at or below a specified New Chemical Exposure Limit ("NCEL") of 0.01 mg/m3 (based on the current ACGIH TLV/TWA for the ammonium salt of perfluorooctanoic acid ("APFO")) and distribute only to those customers in the United States that maintain this NCEL. (To pursue this option, a sampling and analytical method must be developed by the Company, verified by an independent third-party laboratory, and submitted to EPA.);

(f) for operations in the United States, recover and capture (destroy) or recycle the PMN substances from all the process wastewater effluent streams and air emissions (point source and fugitive) at an overall efficiency of 99% and distribute only to those customers that achieve this percentage of efficiency or destruction;

(g) distribute the polymers containing the PMN substances (residuals) at levels not to exceed those specified in this Order and verified using the method in Larsen et al. (2006);

and

(h) maintain certain records.

III. CONTENTS OF PMN

Confidential Business Information Claims (Bracketed in the Preamble and Order): specific chemical identity, production volume, manufacturing process and sites, processing, use, and other information

Chemical Identities:

Specific: **P-08-508** [ ]

CAS no.: [ ] and **P-08-509** [

] CAS no.: [ ].

Generic chemical identity: **P-08-508**– Perfluorinated aliphatic carboxylic acid and **P-08-509**–Perfluorinated Aliphatic Carboxylic Acid, Ammonium Salt

Use:

Specific: **P-08-508**-[

] and **P-08-509**-[

] Intended to replace [

]

Generic: **P-08-508**-Intermediate for polymerization aid, **P-08-509**-polymerization aid

Maximum 12-Month Production Volume: **P-08-508**-[ ] kgs, **P-08-509**-[ ] kgs

Test Data Submitted with PMN: Physical and Chemical characteristics; Determination of the Dissociation Constant (salt); Determination of Water Solubility and Vapor Pressure; Biopersistence and Pharmacokinetic Screen in the Rat; In Vitro Trout Hepatocyte

Bioaccumulation Screen; Thermal Decomposition Study results

Toxicity: Acute oral toxicity, up-and-down procedure and Acute Oral Test (rats and mice); Approximate Lethal Dose (ALD) in rats and mice; Acute Dermal Toxicity in Rats; Approximate Lethal Dose (ALD) by Skin Absorption in Rabbits; Local Lymph Node Assay (LLNA) in Mice; Acute Eye Irritation in rabbits; Acute Dermal Irritation Study in Rabbits; 7-day Repeated Dose Oral Toxicity in Rats and Male Mice; 28-Day Repeated Dose Oral Toxicity Study in Rats and Mice; Corrositex in vitro test; Combined Two Week Inhalation Toxicity and Micronucleus Studies in Rats-Transformation Byproduct. In Vitro Micronucleus and Chromosome Abberration Assay in Mouse Bone Marrow Cells; In Vitro Rat Hepatocyte Screen, Bacterial Acute Mutation test; Determination of permeabillity coefficient (Kp) using a static in vitro diffusion cell model; In Vitro evaluation for Chromosome Aberrations in Human Lymphocytes-transformation byproduct

Mutagenicty test in Salmonella Typhimurium-transformation; byproduct; Combined two week inhalation toxicity and micronucleus studies in -transformation byproduct; Water solubility, vapor pressure, and octanol water partition coefficient and other p-chem properties of transformation byproduct; Thermal Transformation Byproduct

Ecotoxicity/Fate: Acute toxicity to fish (Rainbow trout), daphnia, and algae; Ready Biodegradability Study; Activated Sludge Respiration Inhibition Test; and Assessment of Hydrolysis as a Function of pH

In general, the test substance was the salt (509), except for some acute studies, pharmacokinetics, and mutagenicity where the test substance was both the acid (508) and the salt (509) or as noted below. For a complete listing, see the PMN.

IV. EPA'S ASSESSMENT OF EXPOSURE AND RISK

The following are EPA's predictions regarding the probable toxicity, human exposure and environmental release of the PMN substances, based on the information currently available to the Agency.

Human Health Effects and Fate Summary:

EPA has concerns that these PMN substances will persist in the environment, could bioaccumulate, and be toxic ("PBT") to people, wild mammals, and birds. EPA's concerns are based on data on the PMN substances, analogy to other [ ] chemicals, and to perfluorooctanoic acid ("PFOA") and perfluorooctane sulfonate ("PFOS") which are both currently under review by EPA for PBT concerns. Some [ ], PFOA, and PFOS are expected to persist for years in the environment. Biodegradation and photolysis tests of some analogous substances indicate little or no biodegradation or photolysis of perfluoroalkyl compounds. Bioaccumulation concerns are based on the measured presence of certain perfluoroalkyl compounds, including PFOA, in wildlife and in human blood samples.

Based on test data on structurally similar [ ] chemicals and data on the PMN substances themselves, EPA has human health concerns for the PMN substances. The PMN substances are expected to be absorbed by all routes of exposure. The PMN substances show low acute oral toxicity ($\geq$ 3400 mg/kg). The acute dermal toxicity study with P-08-509 shows low acute dermal toxicity (>5000mg/kg). The PMN substance P-08-508 is expected to be highly irritating or corrosive. There is high concern for eye irritation for both PMN substances.

The PMN substance P08-509 was tested in a 28-day repeated dose study in rats and mice. In the rat study, the doses were 0, 0.3, 3, and 30 mg/kg/day in males and 0, 3, 30, and 300 mg/kg/day in females. The EPA reviewer set the NOAEL in males at 0.3 mg/kg/day based on dose related trends and statistical significance of change in hematologic findings (decreases in red blood cell counts, hemoglobin, and hematocrit in males), increase in clinical chemistry, increases in absolute and relative organ/body and liver weights. Histopathologic findings in the liver included minimal or mild hepatocellular hypertrophy in males at 3 and 30 mg/kg/day. In this study in rats, the EPA reviewer set the NOAEL at 30 mg/kg/day in females based on increased liver weights and liver pathology as hepatocellular hypertrophy in females given 300 mg/kg/day. The investigators concluded that the NOAELs were 30 mg/kg/day in males and 300 mg/kg/day in females, stating that all changes in treated groups are within historical control ranges at the testing facility and as adaptive responses.

In the mouse study, the doses were 0 (vehicle control), 0.1, 3, or 30 mg/kg/day of test substance in deionized water by gavage daily for 28 days with terminal sacrifice on day 29. In addition, 10 male and female mice were similarly treated with 0 (vehicle control), 30 (males), or 300 (females) mg/kg/day and killed after 28 days of recovery following treatment.
The EPA reviewer set the NOAEL at 0.1 mg/kg/day based on signs of anemia and liver effects at higher dose levels. The investigators placed the NOAEL at 0.1 mg/kg/day in males and 3 in females.

A related [ ] substance was also tested in a 28-day study in rats. The doses were 0, 5, 25, and 100 mg/kg/day with a NOAEL of 5 mg/kg/day and effects on the liver and kidney at 25 and 100 mg/kg/day. A single dose pharmacokinetic study was conducted in the rat and the

monkey. Male and female results were similar. Toxicity studies on some [ ] have shown systemic toxicity in animals at levels as low as 0.13 mg/kg in a 90-day oral toxicity study.

Some data exists on the transformation product [ ] and [ ] in combined two week inhalation toxicity and micronucleus studies. Doses were 0, 5,000, 25,000 and 175,000 ppm. The NOAEL was determined to be 175,000 ppm. No systemic toxicity relevant to humans was exhibited for [ ]. For [ ], increased absolute and relative liver weights were seen in this limited study at 25,000 ppm. Mutagenicity in this study was negative.

Several mutagenicity studies were conducted on both PMN substances, P-08-508 and 509. They were not gene mutagens in two species of prokaryotes, and not inducers of DNA effects in mammalian cells *in vivo*. They were chromosome mutagens in mammalian and human cells in culture, but not in mammals *in vivo*. The EPA reviewer concluded that the positive data on the PMNs for *in vitro* chromosomal aberrations in mammalian and human cells are of some concern. However, the negative responses for *in vivo* chromosomal effects as micronuclei and as chromosomal aberrations, and for induction of DNA effects, alleviates that concern. No additional mutagenicity testing is recommended.

For chronic and carcinogenic effects, no information was submitted. EPA believes that a 2-year Chronic Toxicity/Carcinogenicity study (OPPTS 870.~~3100~~, OECD 453) is needed.

Pharmacokinetic studies were conducted in rats. Groups of 3 male and 3 female rats were dosed via single oral gavage with either 10 or 30 mg/kg of the PMN substance P-08-508 (98%) and P-08-509 (84.5%). Blood samples were taken before dosing and periodically thereafter up to 168 hours (7 days) after dosing. In addition, fat and liver samples were taken at terminal sacrifice. Samples were analyzed for the parent compound using HPLC/MS with a level of

quantitation (LOQ) at 20 ng/ml. Clearance times were calculated for the 2 doses for males and females as follows:

	10 mg/kg (508)	30 mg/kg (508)	10 mg/kg (509)	30 mg/kg (509)
Male	28 hr	22 hr	12 hr	22 hr
Female	8 hr	4 hr	4 hr	8 hr

The Company has done some limited biomonitoring in workers and site monitoring. EPA has reviewed the biomonitoring and concluded that samples did not take place over a long enough period of time to see if accumulation occurred and that the limit of detection was not sensitive enough to draw any conclusions at this time.

Toxicity studies on the analogs PFOA and PFOS indicate developmental, reproductive and systemic toxicity in various species. Cancer may also be of concern. These factors, taken together, raise concerns for potential adverse chronic effects in humans and wildlife. For additional information about PFOA, consult the docket EPA-HQ -OPPT-2003-0013. Additional information about PFOA and other perfluorinated substances may also be found in the *Administrative Record for PFOS, PFOA, and Telomers and Related Chemicals (AR-226). Administrative Record (AR-226)* is not currently available online, but copies can be requested on CD-ROM from the EPA Docket office by calling 202/566-0280 or sending an email request to oppt.ncic@epa.gov.

The data on the PMN substance and some other data indicate a different and less toxic profile for the PMN substances than for PFOA and PFOS. However, based on: 1) the persistence of the PMN substances, 2) the toxicity of the PMN substances and some of the [ ] analogs, and 3) the possibility or likelihood that this substance may be used as

a major substitute for a major use of PFOA, EPA believes that more information is needed on the toxicity and pharmacokinetics of the PMN substance P-08-509 that will be applied to the characterization of both PMN substances.

EPA believes that additional pharmacokinetic, reproductive, and long-term toxicological testing on the PMN substance P-08-509 in animals is warranted. EPA will require at a certain production volume that a modified reproductive test (OECD 421, modified) be conducted. The modifications for the reproductive test include: (1) increase the parental sample size to 20; (2) the duration of the study should be extended to until the pups have reached sexual maturation; (3) parental males should be dosed for 10 weeks prior to mating; (4) dosing of the parental animals should be continued through lactation and then the pups should be directly dosed until they reach sexual maturation; (5) pup body weight should be recorded on lactation days 0, 4, 7, 14, and 21 and then at weekly intervals, (6) litter size can be standardized to 4 pups/litter on lactation day 4 (optional); (7) at weaning one pup/sex/litter shall be randomly selected to follow until sexual maturation; and (8) the time of sexual maturation should be recorded (i.e. vaginal opening and preputial separation). In addition, the Company will also conduct Repeated Dose Pharmacokinetics and Metabolism testing (OPPTS 870.7485); a Combined Carcinogenicity/Chronic Toxicity test (OPPTS 870.4300/OECD 453); and an Avian Reproduction test (OECD 206, OPPTS 850.2300).

Environmental Effects Summary:

EPA expects the PMN substances to be highly persistent in the environment. In addition, they may be bio-accumulative or biopersistent based on the predicted log Koc and because some

related substances show evidence of biopersistence. No short-term ecotoxicological concerns were raised for the PMN substances. Reported results in acute toxicity tests in fish (rainbow trout), Daphnia magna and green algae were: fish–96 hr LC 50>96.9 mg/l; Daphnia magna 48 hr EC50 > 102 mg/l; and 72 hr EC50>106 mg/l. However, there is high concern for possible environmental effects over the long-term. As stated previously, the analog PFOA is persistent in the environment and has a long bioretention time in various species. It has been detected in a number of species of wildlife, including marine mammals. It is toxic to mammalian and other species. The presence in the environment and toxicological properties of PFOA continue to be investigated. EPA believes development of additional data is warranted. EPA will require at a certain production volume that a Fish Early Life Stage Toxicity test (OPPTS 850.1400), a Daphnid Chronic Toxicity test (OPPTS 850.1300), and an Avian Reproduction test-Bobwhite Quail (OPPTS 850.2300) be conducted.

Exposure and Environmental Release Summary:

These PMN substances will be manufactured by [

]. P-08-509 will be used as a polymerization aid in the manufacture of [ ].

Several points of exposure and release were submitted and evaluated for these PMN substances. Doses were calculated for dermal and inhalation exposure to P-08-508 from loading and unloading drums and sampling. Inhalation exposures are to vapors with up to 20 workers potentially exposed. EPA estimates that these quantities could be between 3.8 mg/day (typical) to 230 mg/day (worst case). There may be dermal exposure to a liquid containing P-08-508. For P-08-509, manufacture and use were assumed at up to 3 sites (2 DuPont sites and one potential customer site). According to the Company, only one site will be used at a time. At these sites, the material will be unloaded and charged to various process vessels, such as a blend tank or a polykettle. Due to the low vapor pressure of P-08-509, only dermal exposure was evaluated. Based on the possibility of inadvertent exposure at low levels, the Order requires that any person who is reasonably likely to be exposed by inhalation to the PMN substance P-08-509 to wear an appropriate NIOSH-approved respirator. EPA has established for both PMN substances a New Chemical Exposure Limit ("NCEL") at 0.01 mg/m3, the Threshold Limit Value ("TLV") currently recommended for APFO by the ACGIH in the United States, in order to "level the playing field" and allow the substitution of the PMN substance P-08-509 into the marketplace. EPA believes that this limit should be adequate for the PMN substances based on current information. If this ACGIH level were to change or there is data on the PMN substances that EPA believes warrants a change, the NCEL may be changed in order to correspond with the new level or data.

Releases to the environment were estimated to water and to air (fugitive) and to air via incineration. Based on submitter information, the Company currently collects the waste containing the PMN substances and sends the waste to an off-site RCRA incinerator. In the future, the Company intends to develop and use methods to recapture and/or recycle the substances, but is not now doing so. EPA requires in the attached Consent Order that the substances be recovered, recycled and/or destroyed at levels achieving 99% efficiency. EPA will require that the Company directly sell the substances only to customers, if any, that achieve comparable recovery or destruction. The Company shall distribute the PMN substance, P-08-509 in polymers, aqueous or solid, so that the residual P-08-508/509 cumulative total [

] are below 200 ppb level using the ASE method developed by Larsen et al. (The Analyst 2006 p. 1105) with the level of quantification (LOQ) for the standard solution at 0.5 ppb. If non-heat treated solid polymer is distributed then the substance cannot be further distributed, until it is sufficiently heat treated. The Company should make every effort to minimize or prevent any release to the environment of these substances. If any new uses of the substance are found, the Company shall find ways to recover and/or recycle the substance to comparable levels. Fugitive releases may be of particular concern.

V. EPA'S CONCLUSIONS OF LAW

The following findings constitute the basis of the Consent Order:

A. EPA is unable to determine the potential for human health and environmental effects from exposure to the PMN substances. EPA therefore concludes, pursuant to § 5(e)(1)(A)(i) of TSCA,

that the information available to the Agency is insufficient to permit a reasoned evaluation of the human health and environmental effects of the PMN substances.

B. In light of the potential risk of human health and environmental effects posed by the uncontrolled manufacture, import, processing, distribution in commerce, use, and disposal of the PMN substances, EPA has concluded, pursuant to § 5(e)(1)(A)(ii)(I) of TSCA, that uncontrolled manufacture, import, processing, distribution in commerce, use, and disposal of the PMN substances may present an unreasonable risk of injury to human health and the environment.

C. In light of the estimated production volume of, environmental release of, and human exposure to, the PMN substances, EPA has further concluded, pursuant to § 5(e)(1)(A)(ii)(II) of TSCA, that the PMN substances will be produced in substantial quantities for a potential PBT substance, may reasonably be anticipated to enter the environment in substantial quantities for a potential PBT substance, and there may be significant (or substantial) human exposure to the substances.

VI. INFORMATION REQUIRED TO EVALUATE HUMAN HEALTH AND ENVIRONMENTAL EFFECTS

Triggered Testing. The Order prohibits the Company from exceeding specified production volumes unless the Company submits the information described in the Testing section of this Order in accordance with the conditions specified in the Testing section.

Pended Testing. The Order does not require submission of the following information at any specified time or production volume. However, the Order's restrictions on manufacture, import, processing, distribution in commerce, use, and disposal of the PMN substances will

remain in effect until the Order is modified or revoked by EPA based on submission of the following or other relevant information.

Fate and Physical/Chemical Properties information as follows:

Physical/Chemical Property Testing	**OPPTS or OECD Guideline**
UV visible absorption	OPPTS 830.7050 or OECD 101
Hydrolysis as a function of pH	OPPTS 835.2130 or OECD 111

Environmental Fate Testing	**OPPTS or OECD Guideline**
Modified Semi-Continuous Activated Sludge (SCAS) with Analysis for degradation products	OPPTS 835.5045, OPPTS 835.3210 or OECD 302A
Aerobic and Anaerobic Transformation in Soil	OECD 307
Aerobic and Anaerobic transformations in Aquatic Sediment Systems	OECD 308
Direct Photolysis in Water (if wavelengths >290 nm are absorbed)	OPPTS 835.2210
Indirect Photolysis in Water	OPPTS 835.5270
Phototransformation of Chemicals on Soil Surfaces	OECD Jan. 2002 Draft
Simulation test-Aerobic Sewage Treatment (Activated Sludge Units)	OECD 303A
Anaerobic biodegradability of organic compounds in digested sludge	OECD 311
Fish Bioconcentration test	OPPTS 850.1730

CONSENT ORDER

I. SCOPE OF APPLICABILITY AND EXEMPTIONS

(a) Scope. The requirements of this Order apply to all commercial manufacturing, processing, distribution in commerce, use and disposal of the chemical substances [

] (P-08-508) and [

] (P-08-509) ("the PMN substances") in the United States by DuPont Company ("the Company"), except to the extent that those activities are exempted by paragraph (b).

(b) Exemptions. Manufacturing, processing, distribution in commerce, use and disposal of the PMN substances is exempt from the requirements of this Order (except the requirements in the Recordkeeping and Successor Liability Upon Transfer Of Consent Order sections) only to the extent that (1) these activities are conducted in full compliance with all applicable requirements of the following exemptions, and (2) such compliance is documented by appropriate recordkeeping as required in the Recordkeeping section of this Order.

(1) Export. Until the Company begins commercial manufacture of the PMN substances

for use in the United States, the requirements of this Order do not apply to manufacture, processing or distribution in commerce of the PMN substances solely for export in accordance with TSCA §12(a) and (b), 40 CFR 720.3(s) and 40 CFR Part 707. However, once the Company begins to manufacture the PMN substances for use in the United States, no further activity by the Company involving the PMN substances is exempt as "solely for export" even if some amount of the PMN substances is later exported. At that point, the requirements of this Order apply to all activities associated with the PMN substances while in the territory of the United States. Prior to leaving U.S. territory, even those quantities or batches of the PMN substances that are destined for export are subject to terms of the Order, and count towards any production volume test triggers in the Testing section of this Order.

(2) Research & Development ("R&D"). The requirements of this Order do not apply to manufacturing, processing, distribution in commerce, use and disposal of the PMN substances in small quantities solely for research and development in accordance with TSCA §5(h)(3), 40 CFR 720.3(cc), and 40 CFR 720.36. The requirements of this Order also do not apply to manufacturing, processing, distribution in commerce, use and disposal of the PMN substances when manufactured solely for non-commercial research and development per 40 CFR 720.30(i) and TSCA §5(i).

(3) Byproducts. The requirements of this Order do not apply to the PMN substances when they are produced, without separate commercial intent, only as a "byproduct" as defined at 40 CFR 720.3(d) and in compliance with 40 CFR 720.30(g).

(4) No Separate Commercial Purpose. The requirements of this Order do not apply to the PMN substances when they are manufactured, pursuant to any of the exemptions in 40 CFR

720.30(h), with no commercial purpose separate from the substance, mixture, or article of which it is a part.

(5) Imported Articles. The requirements of this Order do not apply to the PMN substances when they are imported as part of an "article" as defined at 40 CFR 720.3(c) and in compliance with 40 CFR 720.22(b)(1).

(c) Automatic Sunset. If the Company has obtained for the PMN substances a Test Market Exemption ("TME") under TSCA §5(h)(1) and 40 CFR 720.38 or a Low Volume Exemption ("LVE") or Low Release and Exposure Exemption ("LoREX") under TSCA §5(h)(4) and 40 CFR 723.50(c)(1) and (2) respectively, any such exemption is automatically rendered null and void as of the effective date of this Consent Order.

II. TERMS OF MANUFACTURE, IMPORT, PROCESSING, DISTRIBUTION IN COMMERCE, USE, AND DISPOSAL PENDING SUBMISSION AND EVALUATION OF INFORMATION

PROHIBITION

The Company is prohibited from manufacturing, importing, processing, distributing in commerce, using, or disposing of the PMN substances in the United States, for any nonexempt commercial purpose, pending the development of information necessary for a reasoned evaluation of the human health and environmental effects of the substance, and the completion of EPA's review of, and regulatory action based on, that information, except in accordance with the conditions described in this Order.

TESTING

(a) Section 8(e) Reporting. Any information on the PMN substances which reasonably supports the conclusion that the PMN substances presents a substantial risk of injury to health or the environment required to be reported under EPA's section 8(e) policy statement at 43 Federal Register 11110 (March 16, 1978) as amended at 52 Federal Register 20083 (May 29, 1987), shall reference the appropriate PMN identification number for this substance and shall contain a statement that the substance is subject to this Consent Order. Additional information regarding section 8(e) reporting requirements can be found in the reporting guide referenced at 56 Federal Register 28458 (June 20, 1991).

(b) Notice of Study Scheduling. The Company shall notify, in writing, the EPA Laboratory Data Integrity Branch (2225A), Office of Enforcement and Compliance Assurance, U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, N.W., Washington, D.C. 20460, of the following information within 10 days of scheduling any study required to be performed pursuant to this Order, or within 15 days after the effective date of this Order, whichever is later:

(1) The date when the study is scheduled to commence;

(2) The name and address of the laboratory which will conduct the study;

(3) The name and telephone number of a person at the Company or the laboratory whom EPA may contact regarding the study; and

(4) The appropriate PMN identification number for each substance and a statement that the substance is subject to this Consent Order.

(c) Good Laboratory Practice Standards and Test Protocols. Each study required to be performed pursuant to this Order must be conducted according to TSCA Good Laboratory Practice Standards at 40 CFR Part 792 and using methodologies generally accepted in the relevant scientific community at the time the study is initiated. Before starting to conduct any such study, the Company must obtain approval of test protocols from EPA by submitting written protocols. EPA will respond to the Company within 4 weeks of receiving the written protocols. Published test guidelines specified in paragraph (d) provide general guidance for development of test protocols, but are not themselves acceptable protocols. Approval of the test protocol does not mean pre-acceptance of test results. Because the Chronic Daphnid Toxicity study and the 90-day toxicity study enumerated below were begun before the execution of this Order the requirement for submission and approval of the protocols for these two studies only is waived.

(d) Triggered Testing Requirements. (i) The Company is prohibited from manufacturing or importing the PMN substances beyond the following aggregate manufacture and import volumes of both PMN substances combined ("the production limits"), unless the Company conducts the following studies and submits all final reports and underlying data in accordance with the conditions specified in this Testing section.

Production Limit	Study	Guideline
[ ] kilograms *	1) Repeated dose Metabolism and Pharmacokinetics rats and mice	OPPTS 870.7485
	2) Modified 1-generation Reproduction study	OECD 421, modified, per (iv) below

	3) Avian Reproduction-Bobwhite Quail	OPPTS 850.2300
	4) Fish Early Life Stage Toxicity	OPPTS 850.1400
	5) Daphnid Chronic Toxicity	OPPTS 850.1300

*An alternate Production Limit for studies 1 and 2 only is two years from the date of commencement of nonexempt commercial manufacture of either PMN substance, or [ ] kilograms, whichever comes later.

[ ] kilograms	6) 90-day toxicity study	OPPTS 870.3100 (OECD 408)
	7) Chronic toxicity/ carcinogenicity study	OPPTS 870.4300 (OECD 453)

(ii) the test substance shall be the substance described in P-08-509;

(iii) EPA recommends that the Company conduct the pharmacokinetics testing first to confirm species acceptability and to provide a reliable half-life for these substances;

(iv) The modifications for the 1-generation reproduction study (study 2 above) are: 1) increase the parental sample size to 20; 2) the duration of the study shall be extended to until the pups have reached sexual maturation; 3) parental males shall be dosed for 10 weeks prior to mating; 4) dosing of the parental animals shall be continued through lactation and then the pups should be directly dosed until they reach sexual maturation; 5) pup body weight shall be recorded on lactation days 0, 4, 7, 14, and 21 and then at weekly intervals; 6) litter size can be

standardized to 4 pups/litter on lactation day 4 (optional); 7) at weaning one pup/sex/litter shall be randomly selected to follow until sexual maturation; and 8) the time of sexual maturation shall be recorded (i.e. vaginal opening and preputial separation).

(e) Test Reports. The Company shall: (1) conduct each study in good faith, with due care, and in a scientifically valid manner; (2) promptly furnish to EPA the results of any interim phase of each study; and (3) submit, in triplicate (with an additional sanitized copy, if confidential business information is involved), the final report of each study and all underlying data ("the report and data") to EPA no later than 14 weeks prior to exceeding the applicable production limit. The final report shall contain the contents specified in 40 CFR 792.185. Underlying data shall be submitted to EPA in accordance with the applicable "Reporting", "Data and Reporting", and "Test Report" subparagraphs in the applicable test guidelines. However, for purposes of this Consent Order, the word "should" in those subparagraphs shall be interpreted to mean "shall" to make clear that the submission of such information is mandatory. EPA will not require the submission of raw data such as slides and laboratory notebooks unless if EPA finds, on the basis of professional judgment, that an adequate evaluation of the study cannot take place in the absence of these items.

(f) Testing Waivers. The Company is not required to conduct a study specified in paragraph (d) of this Testing section if notified in writing by EPA that it is unnecessary to conduct that study.

(g) Equivocal Data. If EPA finds that the data generated by a study are scientifically equivocal,

the Company may continue to manufacture and import the PMN substances beyond the applicable production limit. To seek relief from any other restrictions of this Order, the Company may make a second attempt to obtain unequivocal data by reconducting the study under the conditions specified in paragraphs (b), (c), and (e)(1) and (2). The testing requirements may be modified, as necessary to permit a reasoned evaluation of the risks presented by the PMN substances, only by mutual consent of EPA and the Company.

(h) EPA Determination of Invalid Data.

(1) Except as described in subparagraph (h)(2), if, within 6 weeks of EPA's receipt of a test report and data, the Company receives written notice that EPA finds that the data generated by a study are scientifically invalid, the Company is prohibited from further manufacture and import of the PMN substances beyond the applicable production limit.

(2) The Company may continue to manufacture and import the PMN substances beyond the applicable production limit only if so notified, in writing, by EPA in response to the Company's compliance with either of the following subparagraphs (h)(2)(i) or (h)(2)(ii).

(i) The Company may reconduct the study in compliance with paragraphs (b), (c), and (e)(1) and (2). If there is sufficient time to reconduct the study and submit the report and data to EPA at least 14 weeks before exceeding the production limit as required by subparagraph (e)(3), the Company shall comply with subparagraph (e)(3). If there is insufficient time for the Company to comply with subparagraph (e)(3), the Company may exceed the production limit and shall submit the report and data in triplicate to EPA within a reasonable period of time, all as specified by EPA in the notice described in subparagraph (h)(1). EPA will respond to the

Company, in writing, within 6 weeks of receiving the Company's report and data.

(ii) The Company may, within 4 weeks of receiving from EPA the notice described in subparagraph (h)(1), submit to EPA a written report refuting EPA's finding. EPA will respond to the Company, in writing, within 4 weeks of receiving the Company's report.

(i) Company Determination of Invalid Data.

(1)Except as described in subparagraph (i)(2), if the Company becomes aware that circumstances clearly beyond the control of the Company or laboratory will prevent, or have prevented, development of scientifically valid data under the conditions specified in paragraphs (c) and (e), the Company remains prohibited from further manufacture and import of the PMN substances beyond the applicable production limit.

(2) The Company may submit to EPA, within 2 weeks of first becoming aware of such circumstances, a written statement explaining why circumstances clearly beyond the control of the Company or laboratory will cause or have caused development of scientifically invalid data. EPA will notify the Company of its response, in writing, within 4 weeks of receiving the Company's report. EPA's written response may either:

(i) allow the Company to continue to manufacture and import the PMN substances beyond the applicable production limit, or

(ii) require the Company to continue to conduct, or to reconduct, the study in compliance with paragraphs (b), (c), and (e)(1) and (2). If there is sufficient time to conduct or reconduct the study and submit the report and data to EPA at least 14 weeks before exceeding the production limit as required by subparagraph (e)(3), the Company shall comply with

subparagraph (e)(3). If there is insufficient time for the Company to comply with subparagraph (e)(3), the Company may exceed the production limit and shall submit the report and data in triplicate to EPA within a reasonable period of time, all as specified by EPA in the notice described in subparagraph (i)(2). EPA will respond to the Company, in writing, within 6 weeks of receiving the Company's report and data, as to whether the Company may continue to manufacture and import beyond the applicable production limit.

(j) Unreasonable Risk.

(1) EPA may notify the Company in writing that EPA finds that the data generated by a study are scientifically valid and unequivocal and indicate that, despite the terms of this Order, the PMN substances will or may present an unreasonable risk of injury to human health or the environment. EPA's notice may specify that the Company undertake certain actions concerning further testing, manufacture, import, processing, distribution, use and/or disposal of the PMN substances to mitigate exposures to or to better characterize the risks presented by the PMN substances. Within 2 weeks from receipt of such a notice, the Company must cease all manufacture, import, processing, distribution, use and disposal of the PMN substances, unless either:

(2) within 2 weeks from receipt of the notice described in subparagraph (j)(1), the Company complies with such requirements as EPA's notice specifies; or

(3) within 4 weeks from receipt of the notice described in subparagraph (j)(1), the Company submits to EPA a written report refuting EPA's finding and/or the appropriateness of any additional requirements imposed by EPA. The Company may continue to manufacture,

import, process, distribute, use and dispose of the PMN substances in accordance with the terms of this Order pending EPA's response to the Company's written report. EPA will respond to the Company, in writing, within 4 weeks of receiving the Company's report. Within 2 weeks of receipt of EPA's written response, the Company shall comply with any requirements imposed by EPA's response or cease all manufacture, import, processing, distribution, use and disposal of the PMN substances.

(k) Other Requirements. Regardless of the satisfaction of any other conditions in this Testing section, the Company must continue to obey all the terms of this Consent Order until otherwise notified in writing by EPA. The Company may, based upon submitted test data or other relevant information, petition EPA to modify or revoke provisions of this Consent Order pursuant to Part VI. of this Consent Order.

PROTECTION IN THE WORKPLACE

(a) Establishment of Program. During manufacturing, processing, and use of the PMN substances at any site controlled by the Company (including any associated packaging and storage and during any cleaning or maintenance of equipment associated with the PMN substances), the Company must establish a program whereby:

(1) General Dermal Protection. Each person who is reasonably likely to be dermally exposed in the work area to the PMN substances through direct handling of the substance or through contact with equipment on which the substance may exist, or because the substance

becomes airborne in a form listed in subparagraph (a)(5) of this section, is provided with, and is required to wear, personal protective equipment that provides a barrier to prevent dermal exposure to the substance in the specific work area where it is selected for use. Each such item of personal protective equipment must be selected and used in accordance with Occupational Safety and Health Administration ("OSHA") dermal protection requirements at 29 CFR 1910.132, 1910.133, and 1910.138.

(2) Specific Dermal Protective Equipment. The dermal personal protective equipment required by subparagraph (a)(1) of this section must include, but is not limited to, the following items:

(i) Gloves.

(ii) Full body chemical protective clothing.

(iii) Chemical goggles or equivalent eye protection.

(iv) Clothing which covers any other exposed areas of the arms, legs and torso. Clothing in this subparagraph (a)(2)(iv) need not be tested or evaluated under the requirements of subparagraph (a)(3)

(3) Demonstration of Imperviousness. The Company is able to demonstrate that each item of chemical protective clothing selected, including gloves, provides an impervious barrier to prevent dermal exposure during normal and expected duration and conditions of exposure within the work area by any one or a combination of the following:

(i) Permeation Testing. Testing the material used to make the chemical protective clothing and the construction of the clothing to establish that the protective clothing will be impervious for the expected duration and conditions of exposure. The testing must subject the

chemical protective clothing to the expected conditions of exposure, including the likely combinations of chemical substances to which the clothing may be exposed in the work area. Permeation testing shall be conducted according to the American Society for Testing and Materials ("ASTM") F739 "Standard Test Method for Resistance of Protective Clothing materials to Permeation by Liquids or Gases." Results shall be recorded as a cumulative permeation rate as a function of time (or versus time), and shall be documented in accordance with ASTM F739 using the format specified in ASTM F1194-99 "Guide for Documenting the Results of Chemical Permeation Testing on Protective Clothing Materials." Gloves may not be used for a time period longer than they are actually tested and must be replaced at the end of each work shift during which they are exposed to the PMN substances.

(ii) Manufacturer's Specifications. Evaluating the specifications from the manufacturer or supplier of the chemical protective clothing, or of the material used in construction of the clothing, to establish that the chemical protective clothing will be impervious to the PMN substances alone and in likely combination with other chemical substances in the work area.

(4) Respiratory Protection. Each person who is reasonably likely to be exposed by inhalation in the work area to the PMN substance, P-08-508, in the form listed in subparagraph (a)(5) of this section, is provided with, and is required to wear, at a minimum, a NIOSH-certified respirator with an Applied Protection Factor ("APF") of 3000 from the respirators listed in subparagraph (a)(6) of this section. All respirators must be used in accordance with OSHA and NIOSH respiratory protection requirements at 29 CFR 1910.134 and 42 CFR Part 84. All respirators must be issued, used, and maintained according to an appropriate respiratory

protection program under the OSHA requirements in 29 CFR 1910.134.

In addition, each person who is reasonably likely to be exposed by inhalation in the work area to the PMN substance P-08-509 must be provided with and wear an appropriate NIOSH-approved respirator.

(5) Physical States. The following physical states of airborne chemical substances are listed for subparagraphs (a)(1) and (4) of this section:

(i) Particulate (including solids or liquid droplets),

(ii) Gas/vapor (all substances in the gas form), or

(iii) Combination Gas/Vapor and Particulate (gas and liquid/solid physical states are both present; a good example is paint spray mist, which contains both liquid droplets and vapor).

(6) Authorized Respirators. The following NIOSH-certified respirators meet the minimum requirements for P-08-508 in subparagraph (a)(4) of this section:

–a NIOSH-certified supplied-air respirator operated in pressure demand or other positive pressure mode and equipped with a tight-fitting full face piece.

NEW CHEMICAL EXPOSURE LIMIT

(a) Alternative to Requirements of Respirator Section.

(1) EPA recommends and encourages the use of pollution prevention, source reduction, engineering controls and work practices, rather than respirators, as a means of controlling inhalation exposures whenever practicable.

(2) Whenever a person is reasonably likely to be exposed to the PMN substances by

inhalation, as an alternative to compliance with the respirator requirements in the Protection in the Workplace section of this Order, the Company may comply with the requirements of this New Chemical Exposure Limit section. However, before the Company may deviate from the respirator requirements in the Protection in the Workplace section of this Order, the Company must:

(i) submit to EPA a copy of the Company's sampling and analytical method for the PMN substances, verified in accordance with subsection (c)(3) of this New Chemical Exposure Limit section;

(ii) obtain exposure monitoring results in accordance with this New Chemical Exposure Limit section; and

(iii) based on those exposure monitoring results, select, provide, and ensure use if necessary of the appropriate respiratory protection specified in paragraph (e)(2) of this New Chemical Exposure Limit section by persons who are reasonably likely to be exposed to the PMN substances by inhalation.

(3) After appropriate respiratory protection has been selected at a workplace based on the results of actual exposure monitoring conducted in accordance with this New Chemical Exposure Limit section, the Company shall not, at that workplace, use the respiratory protection required in the Protection in the Workplace section of this Order (unless it is the same as required by this New Chemical Exposure Limit section).

(b) Exposure Limit.

(1) General. The following new chemical exposure limit ("NCEL") for the PMN

substances is an interim level determined by EPA based on the limited information available to the Agency at the time of development of this Order. The NCEL for the PMN substances is as follows:

(i) Time-Weighted Average ("TWA") Limit. The Company shall ensure that no person is exposed to an airborne concentration of both PMN substances combined in excess of 0.01 mg/m3 (the NCEL) as an 8-hour time-weighted average, without using a respirator in accordance with subsection (e) of this New Chemical Exposure Limit section.

(ii) Non-8-Hour Work-shifts. For non-8-hour work-shifts, the NCEL for that work-shift ("NCELn") shall be determined by the following equation: NCELn = NCEL x (8/n) x [(24-n)/16], where n = the number of hours in the actual work-shift.

(2) Automatic Sunset. If, subsequent to the effective date of this Order, OSHA promulgates, pursuant to §6 of the Occupational Safety and Health Act, 29 U.S.C. 655, a final chemical-specific permissible exposure limit ("PEL") specifically applicable to these PMN substances and the OSHA PEL is not challenged in court within 60 days of its promulgation, then any respirator requirements in the Protection in the Workplace section of this Order and any requirements of this New Chemical Exposure Limit section applicable to workers and situations subject to the OSHA PEL shall automatically become null and void. However, the requirements of this Consent Order are not negated by any pre-existing OSHA PEL applicable to the PMN substances.

(c) Performance-Criteria for Sampling and Analytical Method.

(1) Applicability. For initial development and validation of the sampling and analytical

method for the PMN substances, all the requirements of this subsection (c) apply. For subsequent exposure monitoring conducted pursuant to subsection (d) of this New Chemical Exposure Limit section, only the following requirements apply: (c)(4)(i), (4)(ii), (4)(iv)(II), (4)(v)(II), (8), (9), and (10). Any deviation from the requirements of this subsection (c) must be approved in writing by EPA.

(2) Submission of Verified Method and Certification Statement. The Company shall submit to EPA a copy of a validated sampling and analytical method for the PMN substances which satisfies the criteria specified in this subsection (c). The method description shall expressly state how the method compares with each quantitative requirement specified in this subsection (c). The submission must include a written statement, signed by authorized officials of both the Company and the Laboratory, certifying the truth and accuracy of the independent laboratory verification conducted pursuant to subsection (c)(3). To assist EPA in identifying the document, it shall state in a conspicuous, underlined subject-line at the top of the first page: "NCEL Sampling and Analytical Method for PMN # _____," after-which the correct PMN number for this chemical substance shall be stated.

(3) Verification of Analytical Method by Independent Third-Party Laboratory.

(i) Verification. The Company shall have an independent reference laboratory ("Laboratory") verify the validity of the analytical method for the PMN substances, in accordance with the other requirements in this subsection (c)(3). It is the Company's responsibility to ensure that the Laboratory complies with all the requirements specified in this subsection (c)(3).

(ii) Independent Reference Laboratory. The independent reference laboratory must be a separate and distinct person (as defined at 40 CFR 720.3(x)) from the Company and

from any other person who may have developed the method for the Company.

(iii) Accreditation. The Laboratory must be accredited by a formally recognized government or private laboratory accreditation program for chemical testing and/or analysis.

(iv) Good Laboratory Practice Standards. The Laboratory verification of the analytical method for the PMN substances must comply with TSCA Good Laboratory Practice Standards ("GLPS") at 40 CFR Part 792. (Certain provisions of the TSCA GLPS applicable to toxicity testing in laboratory animals, such as 40 CFR 792.43 ("Test system care facilities"), 792.45 ("Test system supply facilities") and 792.90 ("Animal and other test system care"), are clearly inapplicable to the NCEL requirements.) However, compliance with TSCA GLPS is not required under this New Chemical Exposure Limit section where the analytical method is verified by a laboratory accredited by either: (A) the American Industrial Hygiene Association ("AIHA") Industrial Hygiene Laboratory Accreditation Program ("IHLAP"); or (B) another comparable program approved in advance in writing by EPA.

(v) Analysis of Duplicate Samples. The Company shall collect six duplicate samples (a total of 12) at the TWA concentration. The samples shall be taken either from a controlled environment (e.g., a sealed chamber or "glove box") which closely resembles the actual workplace conditions or, for solids and liquids with very low vapor pressure, by injecting the PMN substances onto a sample collection device. The duplicate samples shall be collected on identical collection media, at the same time, and under the same conditions. One set of six samples shall immediately be analyzed by the Company, the other set of six samples shall be analyzed by the Laboratory using the method developed by or for the Company.

(vi) Sample Storage Study. If the results of the analysis of duplicate samples

pursuant to paragraph (c)(3)(v) do not satisfy the requirements in paragraph (c)(3)(vii), the Company must perform a sample storage study as follows:

(I) Triplicate Samples. The Company shall collect six triplicate samples (a total of 18) at the TWA concentration. The samples shall be taken either from a controlled environment (e.g., a sealed chamber or "glove box") which closely resembles the actual workplace conditions or, for solids and liquids with very low vapor pressure, by injecting the PMN substances onto a sample collection device. The triplicate samples shall be collected on identical collection media, at the same time, and under the same conditions. One set of six samples shall immediately be analyzed by the Company.

(II) Analysis After Sample Storage. A sample storage evaluation shall be performed with the two remaining sets of six samples. One set of six samples shall be analyzed by the Laboratory using the method developed by or for the Company, and the other shall be analyzed by the Company on the same day as the Laboratory analyzes its six samples. Specialized storage conditions for the samples including extraction conditions, time from sampling to extraction, time from collection or extraction (if applicable) to analysis and storage conditions must be specified in the method description.

(vii) Comparison of Results. The difference between the results of the two sets of six samples analyzed by the Laboratory and the Company as required in either paragraph (c)(3)(v) or (c)(3)(vi)(II) shall be evaluated using a two-sample t-test with unequal variances, and the two sides of the critical regions shall not exceed a 5% significance level. (See Attachment B - Statistical Analysis of NCELs Analytical Method Verification Results.) The arithmetic mean of each set of six samples must be within 10% of the overall arithmetic mean of the two sets of

sample measurements. If the arithmetic mean of each set of six samples is not within 10% of the overall arithmetic mean, then the sample storage time between collection and analysis must be reduced until the average of each set of six samples is within 10% of the overall arithmetic mean.

(4) Accuracy. The sampling and analytical method must clearly demonstrate the following:

(i) General. The sampling and analytical method, and all exposure monitoring data relied on by the Company, shall be accurate to within ±25% at a 95% confidence level for concentrations of the PMN substances ranging from one half the NCEL to twice the NCEL.

(ii) NCEL Quantitation Limits. The analytical method should be capable of reliably quantifying the PMN substances across the full range of reasonably likely exposures. At a minimum, the analytical method must be capable of reliably quantifying from a lower quantitation limit ("LQL") of one half the NCEL to an upper quantitation limit ("UQL") of at least twice the NCEL. If the Company obtains an exposure monitoring sample that is more than 10% above the actual UQL of the analytical method, the Company must comply with paragraph (e)(4)(i).

(iii) Lower Quantitation Limit Signal-To-Noise Ratio. The analytical method shall be capable of quantifying the PMN to a concentration of one half the NCEL with a signal that is at least five times the baseline noise level. Baseline noise must be amplified to a measurable level when possible, even if the required amplification is beyond that used in routine analysis of samples. (If baseline noise cannot be obtained, another reference must be selected. This may be a peak considered to be noise caused by the reagent matrix.) The sampling preparation method must be specified and the detection limit for the analytical procedure must be

reported as mass per injection for chromatographic techniques.

(iv) Instrument Calibration.

(I) Initial Calibration. For method development and validation (but not subsequent exposure monitoring), the initial calibration shall at a minimum consist of five (5) calibration standards with a linear correlation of 0.95 -- these five (5) calibration standards must consist of one standard at each of the following concentrations: one half the NCEL (0.5 x NCEL); between one half and one times the NCEL (0.5 x NCEL < > 1 x NCEL); one times the NCEL (1 x NCEL); between one and two times the NCEL (1 x NCEL < > 2 x NCEL), and twice the NCEL (2 x NCEL).

(II) Continuing Calibration. During each week of both method development/validation and subsequent exposure monitoring, the Company shall conduct both an initial instrument calibration and a continuing calibration. The Company shall perform at least one continuing calibration sample at the NCEL concentration, and at least one additional calibration sample per every 10 samples analyzed. The continuing calibration sample shall fall within $\pm$ 25% of the initial calibration value. If not, then the initial calibration must be repeated, and any samples associated with that outlying calibration check must be re-analyzed.

(v) Calculated Percent Recovery.

(I) Initial Calculation. For method development and validation, the Company must calculate the percent of the PMN substances recovered by the analytical method from a sample containing a known quantity of the PMN substances. The sample shall be taken either from a controlled environment (e.g., a sealed chamber or "glove box") which closely resembles the actual workplace conditions or, for solids and liquids with very low vapor

pressure, by injecting the PMN substances onto a sample collection device. (Such a sample is referred to as a "matrix spike"). The calculated percent recovery for each matrix spike shall be greater than or equal to 75% and less than or equal to 125%. Spike concentrations for the PMN substances must be included in the sampling and analytical method submitted to EPA.

(II) Subsequent Calculation. During each subsequent exposure monitoring episode or campaign, at least 1 matrix spike, prepared by injecting the PMN substances onto a sample collection device, shall be analyzed. (This matrix spike must be prepared at the NCEL concentration.)

(vi) Sampling Device Capacity. The capacity of the sampling device must be tested and results reported to show under a known and well-defined set of conditions that the device is capable of collecting the new chemical in solid, liquid or vapor phase with minimal loss. The sampling device's capacity (air volume and collected analyte mass) must be specified. For methods that use adsorbent tubes as the collection medium, evidence of the capacity must be provided in the form of breakthrough testing. This testing must be done at a concentration twice the NCEL and under conditions similar to those expected in the workplace. Breakthrough is defined to have occurred when the concentration of the PMN substances in the effluent stream is equal to 5% of the concentration of the influent stream, or when 20% of the PMN substances is detected in the backup section of the sampler.

(vii) Sampling Device Desorption Efficiency. Where applicable, the desorption efficiency must be evaluated for the air sampling device. A minimum of six air samples spiked with the PMN substances at least the NCEL concentration must be prepared. A recovery of at least 75% must be obtained for each of the six samples.

(5) Precision. The estimate of the coefficient of variation of each set of six samples from the controlled atmosphere test (spiked at 1.0 NCEL, per paragraphs (c)(3)(v) or (vi)) must be less than 0.105, including allowance of 0.05 for error due to sampling.

(6) Interpretation of Accuracy and Precision Data.

(i) If a single matrix spike recovery is less than 75% recovery or greater than 125% or the estimated coefficient of variation is greater than 0.105, then the Company must re-prepare the matrix spike, re-sample, and re-analyze all samples associated with such matrix spike or triplicate samples.

(ii) For percent recoveries less than 90% but greater than 75%, correction for low recovery is required. Correct for recovery first by dividing the observed amount by the proportion recovered before determining if measurements fall below the NCEL. For example, if the observed level is 30 mg/m^3 and the percent recovery is 75%, use the value 30 $mg/m^3/(0.75)$ = 40 mg/m^3 when determining whether the levels are below the exposure limit.

(7) Representativeness. All sample conditions used to develop the methodology shall mimic the actual workplace environment expected to be monitored. Conditions such as the temperature, humidity, lighting, and presence of other chemicals, etc. must mimic the conditions in the workplace to be monitored.

(8) Changes Affecting Validity. If the workplace environment changes from the initial conditions described in the verified sampling and analytical method in a way reasonably likely to invalidate the accuracy of the method, then the Company must comply with the respirator requirements in the Protection in the Workplace section of this Order, unless the Company re-validates the method to confirm that the requirements for accuracy and precision in paragraphs

(c)(4) and (5) are met. Examples of possible changes include but are not limited to: introduction of a new chemical substance to the workplace which may interfere with the analysis of the new chemical; introduction of light to the workplace which may interfere with light-sensitive PMN substances; or introduction of water/increased humidity to the workplace which could react with the PMN substances and cause difficulties in collection and analysis.

(9) Comparability. All data and results shall be reported in the same units of measurement as the NCEL.

(10) Responsibility for Method Validity. The independent laboratory verification and EPA receipt of the sampling and analytical method pursuant to this subsection (c) do not ensure that the method will produce valid exposure monitoring data. The Company is ultimately responsible for ensuring the validity of its exposure monitoring data.

(d) Monitoring Potential Exposure.

(1) General.

(i) Action Level. The "action level" is defined as an airborne concentration of the PMN substances, calculated as an 8-hour time-weighted average, equal to one half the NCEL TWA specified in subparagraph (b)(1). For non-8-hour work shifts, the action level is equal to one half the NCELn. (The NCELn is described in subparagraph (b)(1)(ii).) The Company may exceed the action level without penalty. The purpose of the action level is solely to determine the requisite monitoring frequency.

(ii) Representative Exposure Groups. Whenever exposure monitoring is required by this New Chemical Exposure Limit section, the Company shall take representative samples of

what the potential exposure of each person who is reasonably likely to be exposed to airborne concentrations of the PMN substances would be if respirators were not worn. The Company shall do so by sampling the breathing zone air of at least one person that represents, and does not underestimate, the potential exposure of every person performing the same or substantially similar operations in each work shift, in each job classification, in each work area (hereinafter identified as an "exposure group") where inhalation exposure to the PMN substances is reasonably likely to occur. The exposure of each person need not be itself directly sampled if that exposure is represented by sampling the exposure of another person in the same exposure group.

(iii) Good Laboratory Practice Standards. Determinations of potential inhalation exposure shall be made according to TSCA Good Laboratory Practice Standards at 40 CFR Part 792 and the sampling and analytical method developed pursuant to subsection (c) of this New Chemical Exposure Limit section. [Certain provisions of the TSCA GLPS applicable to toxicity testing in laboratory animals, such as 40 CFR 792.43 ("Test system care facilities"), 792.45 ("Test system supply facilities") and 792.90 ("Animal and other test system care"), are clearly inapplicable to the NCEL requirements.] However, compliance with TSCA GLPS is not required where exposure monitoring samples are analyzed by a laboratory accredited by either: (A) the American Industrial Hygiene Association ("AIHA") Industrial Hygiene Laboratory Accreditation Program ("IHLAP"); or (B) another comparable program approved in advance in writing by EPA.

(iv) Full Shift Exposure Samples. Representative 8-hour TWA airborne concentrations shall be determined on the basis of samples representing the full shift exposure for

each exposure group.

(2) Initial Monitoring. Before the Company may deviate from the respirator requirements of the Protection in the Workplace section, the Company shall conduct initial exposure monitoring to accurately determine the airborne concentration of the PMN substances for each exposure group in which persons are reasonably likely to be exposed to the PMN substances.

(3) Periodic Monitoring.

(i) If any representative samples taken during the initial exposure monitoring reveal an airborne concentration at or above the action level but at or below the TWA, the Company shall repeat the exposure monitoring for that exposure group at least every 6 months. If the PMN substances are not manufactured, processed, or used at all during a given 6 month calendar period, the Company is not required to conduct exposure monitoring until manufacture, processing, or use of the PMN substances is resumed. However, cessation of manufacturing, processing and use of the PMN substances for less than the 6 month period does not constitute grounds for postponement of the 6 month deadline to conduct exposure monitoring.

(ii) If any representative samples taken during the initial exposure monitoring reveal an airborne concentration above the TWA, the Company shall repeat the exposure monitoring for that exposure group at least every 3 months. If the PMN substances are not manufactured, processed, or used at all during a given 3 month calendar period, the Company is not required to conduct exposure monitoring until manufacture, processing, or use of the PMN substances is resumed. However, cessation of manufacturing, processing and use of the PMN substances for less than the 3 month period does not constitute grounds for postponement of the

3 month deadline to conduct exposure monitoring.

(iii) The Company may alter the exposure monitoring schedule from every 3 months to every 6 months for any exposure group for whom two consecutive measurements taken at least 7 days apart indicate that the potential exposure has decreased to the TWA or below, but is at or above the action level. Where the PMN substances are manufactured, processed, or used in batches of duration less than 7 days, the 2 consecutive measurements may be taken at least 24 hours apart, provided that the measurements accurately reflect the highest peak exposures and variability in exposure.

(4) Termination of Monitoring.

(i) If representative samples taken during the initial exposure monitoring reveal an airborne concentration below the action level, the Company may discontinue monitoring for that exposure group, except when additional exposure monitoring is required by paragraph (d)(5) of this New Chemical Exposure Limit section.

(ii) If representative samples taken during the periodic monitoring reveal that an airborne concentration, as indicated by at least 2 consecutive measurements taken at least 7 days apart, are below the action level, the Company may discontinue the monitoring for that exposure group, except when additional monitoring is required by paragraph (d)(5) of this New Chemical Exposure Limit section. Where the PMN substances are manufactured, processed, or used in batches of duration less than 7 days, the 2 consecutive measurements may be taken at least 24 hours apart, provided that the measurements accurately reflect the highest peak exposures and variability in exposure.

(5) Additional Monitoring.

(i) For a previously monitored exposure group, the Company shall, within 7 days of any of the events listed below in this paragraph (d)(5)(i), conduct the initial exposure monitoring followed by any periodic or additional exposure monitoring required by subsection (d) of this New Chemical Exposure Limit section:

(I) change in the production volume, process, control equipment, personnel or work practices that may reasonably cause new or additional exposures to the PMN substances;

(II) spills, leaks, ruptures or other breakdowns occur that may reasonably cause new or additional exposures to the PMN substances; and

(III) whenever else the Company has any reason to suspect a change that may reasonably result in new or additional exposures to the PMN substances.

(ii) In no event is the additional exposure monitoring requirement in paragraph (d)(5)(i) intended to delay implementation of any necessary cleanup or other remedial action. During any cleanup or remedial operations that may occur before commencing additional exposure monitoring, the Company shall ensure that potentially exposed persons use at least the respiratory protection specified in subsection (e) for the measured airborne concentration, or more protective respiratory equipment deemed appropriate by the best professional judgment of a qualified expert.

(6) Notification of Monitoring Results.

(i) Within 15 working days after receipt of the results of any exposure monitoring required by this Order, the Company shall notify each person whose exposure is represented by that monitoring. The notice shall identify the NCEL, the exposure monitoring results, and any

corresponding respiratory protection required by subsection (e). Affected persons shall be notified in writing either individually or by posting the information in an appropriate and accessible location.

(ii) Whenever the NCEL is exceeded, the written notification required by the preceding paragraph shall describe the action being taken by the Company to reduce inhalation exposure to or below the NCEL, or shall refer to a document available to the person which states the actions to be taken to reduce exposure.

(7) Exemption based on Objective Data. Where the Company has documented and reliable objective data demonstrating that, even under worst-case conditions, employee exposure to the PMN substances will not exceed the action level (defined in paragraph (d)(1)(i)) under the expected handling procedures and conditions for a specific "exposure group" (defined in paragraph (d)(1)(ii)), then that exposure group is exempt from this New Chemical Exposure Limit section (except paragraph (d)(5) "Additional Monitoring" and subsection (f) "NCEL Record-keeping") and the respirator requirements in the Protection in the Workplace section of this Order. Any such objective data must accurately characterize actual employee exposures to the PMN substances and must be obtained under conditions closely resembling the types of materials, processes, control methods, work practices, and environmental conditions in the Company's current workplace operations with the PMN substances. Examples of objective data that may be used to demonstrate that employee exposure will not exceed the action level, even under worst case conditions, include information on the physical and chemical properties of the PMN substances, industry-wide studies, and/or laboratory test results.

(e) Respiratory Protection.

(1) General. Whenever the Company has conducted exposure monitoring at a workplace in accordance with subsection (d) of this New Chemical Exposure Limit section and the measured airborne concentration of the PMN substances for any person who is reasonably likely to be exposed to the PMN substances by inhalation exceeds the NCEL, the Company shall provide those persons the respirators specified in this subsection (e) (rather than the respirator(s) identified in the Protection in the Workplace section of this Order), and shall ensure that the respirators are used (including training, fit testing, and maintenance) in accordance with OSHA and NIOSH respiratory protection requirements at 29 CFR 1910.134 and 42 CFR Part 84. When the Company has not yet measured the airborne concentration of the PMN substances at a workplace in accordance with this New Chemical Exposure Limit section, the Company shall comply with the respirator requirements in the Protection in the Workplace section of this Order at that workplace.

(2) Selection of Appropriate Respiratory Protection. After the Company has conducted exposure monitoring in accordance with subsection (d) of this New Chemical Exposure Limit section, the Company shall select, provide, and ensure that persons who are reasonably likely to be exposed to the PMN substances by inhalation use, at a minimum, the respiratory protection which corresponds in the following table to the measured airborne concentration (or a more protective respirator which corresponds to a concentration higher than measured)

Measured Concentration of PMN Substance	**Required Respiratory Protection**

≤ NCEL -- No respiratory protection is required.

≤ 10 x NCEL *If Data on Cartridge Service Life Testing has been Reviewed and Approved by EPA:*

-- NIOSH-certified air-purifying, tight-fitting full-face respirator equipped with the appropriate gas/vapor cartridges (organic vapor, acid gas, or substance-specific).

-- NIOSH-certified powered air-purifying respirator equipped with a loose fitting hood or helmet and equipped with the appropriate gas/vapor cartridges (organic vapor, acid gas, or substance-specific).

≤ 25 x NCEL *If Data on Cartridge Service Life Testing has been Reviewed and Approved by EPA:*

-- NIOSH-certified air-purifying, tight-fitting full-face respirator equipped with the appropriate gas/vapor cartridges (organic vapor, acid gas, or substance-specific).

-- NIOSH-certified powered air-purifying respirator equipped with a loose-fitting hood or helmet and the appropriate gas/vapor cartridges (organic vapor, acid gas, or substance-specific).

≤ 50 x NCEL *If Data on Cartridge Service Life Testing has been Reviewed and Approved by EPA:*

-- NIOSH-certified air-purifying, tight-fitting full-face respirator equipped with the appropriate gas/vapor cartridges (organic vapor, acid gas, or substance-specific).

If No Cartridge Service Life Testing is Available:

-- NIOSH-certified supplied-air respirator operated in pressure demand or continuous flow mode and equipped with a tight-fitting full facepiece.

≤ 2000 x NCEL -- NIOSH-certified supplied-air respirator operated in pressure demand or

other positive pressure mode and equipped with a tight-fitting full facepiece.

> 2000 x NCEL -- Any self-contained respirator equipped with a full facepiece and operated in a pressure demand or other positive pressure mode.

-- Any supplied-air respirator equipped with a full facepiece operated in a pressure demand or other positive pressure mode in combination with an auxiliary self-contained breathing apparatus operated in a pressure demand or other positive pressure mode.

(3) Reductions in Respiratory Protection. After appropriate respiratory protection has been selected based on the results of actual exposure monitoring conducted at a workplace in accordance with subsection (d) of this New Chemical Exposure Limit section, the Company shall not, at that workplace, use the respiratory protection required by the Protection in the Workplace section of this Order (unless it is the same as required by this New Chemical Exposure Limit section). Before the Company may make any reduction in any respiratory protection selected pursuant to this New Chemical Exposure Limit section, the Company must verify, by 2 consecutive measurements taken at least 7 days apart, that the new respiratory protection is appropriate in accordance with paragraph (e)(2). Where the PMN substances is manufactured, processed, or used in batches of duration less than 7 days, the 2 consecutive measurements may be taken at least 24 hours apart, provided that the measurements accurately reflect the highest peak exposures and variability in exposure.

(4) Special Situations.

(i) Measurements Outside Quantitation Limits. When a value less than the lower quantitation limit ("LQL") of the analytical method (as described in paragraph (c)(4)(ii)) is

measured, the Company shall estimate potential exposure using generally established and accepted statistical methods. If the Company obtains an exposure monitoring sample that is more than 10% above the actual upper quantitation limit ("UQL") of the analytical method, the Company must ensure that its workers wear at least a NIOSH-certified supplied-air respirator operated in pressure demand or other positive pressure mode and equipped with a tight-fitting full facepiece. Any reductions in this respiratory protection must comply with paragraph (e)(3). The Company may submit an improved analytical method provided that it complies fully with subsection (c) of this New Chemical Exposure Limit section, including the verification required by subsection (c)(3).

(ii) Cleanup and Remedial Actions. During any special cleanup or other remedial actions that may occur before commencing additional exposure monitoring (as discussed in paragraph (d)(5)(ii)), the Company shall ensure that potentially exposed persons use at least the respiratory protection specified above in this subsection (e) for the measured airborne concentration, or more protective respiratory equipment deemed appropriate by the best professional judgment of a qualified expert.

(f) NCEL Recordkeeping.

(1) Whenever the Company elects to comply with this New Chemical Exposure Limit section rather than the respirator requirements in the Protection in the Workplace section of this Order, the Company shall maintain the following records until 30 years after the date they are created, and shall make them available for inspection and copying by EPA in accordance with section 11 of TSCA:

(i) A copy of the sampling and analytical methods used and continuing evidence

of their accuracy over time as required by section (c);

(ii) Records documenting compliance with the analytical method verification requirements of subsection (c)(3), including copies of the signed certification statement and the verification results obtained by both laboratories;

(iii) Records documenting either compliance with the Good Laboratory Practice Standards at 40 CFR Part 792, or use of a laboratory accredited by the American Industrial Hygiene Association ("AIHA") or another comparable program approved in advance in writing by EPA. Where the Company elects to not comply with TSCA GLPS, such records shall include the written accreditation from the AIHA or the written approval from EPA.

(iv) Records documenting all exposure monitoring dates, duration, and results of each sample taken;

(v) Records documenting the name, address, work shift, job classification, and work area of the person monitored and of all other persons whose exposures the monitoring is intended to represent;

(vi) Any conditions that might have affected the monitoring results;

(vii) Notification of exposure monitoring results required by paragraph (d)(6);

(viii) Records documenting any changes in the production, process, control equipment, personnel or work practices that may reasonably cause new or additional exposures to the PMN substances;

(ix) Records documenting any spills, leaks, ruptures or other breakdowns that may cause new or additional exposure;

(x) The type of respiratory protective devices worn by the monitored person, if any;

(xi) Records documenting any actions taken to mitigate exposures to the PMN substances;

(xii) Records documenting reliance on the objective data exemption in paragraph (d)(7), including: (A) the source of the data, (B) protocols and results of any relevant testing or analysis, (C) a description of the operation exempted and how the data demonstrate that employee exposures will not exceed the action level, (D) other data relevant to the operations, materials and employee exposures covered by the exemption.

MANUFACTURING

(a) (1) Prohibition. The Company shall not cause, encourage, or suggest the manufacture or import of the PMN substances by any other person.

(2) Sunset Following SNUR. Subparagraph (a)(1) shall expire 75 days after promulgation of a final significant new use rule ("SNUR") governing the PMN substances under section 5(a)(2) of TSCA unless the Company is notified on or before that day of an action in a Federal Court seeking judicial review of the SNUR. If the Company is so notified, subparagraph (a)(1) shall not expire until EPA notifies the Company in writing that all Federal Court actions involving the SNUR have been resolved and the validity of the SNUR affirmed.

(3) Notice of SNUR. When EPA promulgates a final SNUR for the PMN substances and subparagraph (a)(1) expires in accordance with subparagraph (a)(2), the Company shall notify each person whom it causes, encourages or suggests to manufacture or import the PMN substances of the existence of the SNUR.

CONTROL OF EFFLUENT & EMISSIONS

(a) The Company shall recover and capture (destroy) or recycle the PMN substances at an overall efficiency of 99% from all the effluent process streams and the air emissions (point source and fugitive).

DISTRIBUTION

(a) Distribution Requirements. Except as provided in paragraph (b), the Company shall distribute the PMN substances outside the Company, only to a person who has agreed in writing prior to the date of distribution, to:

(1) Comply with the same requirements and restrictions, if any, required of the Company in the Protection in the Workplace and the New Chemical Exposure Limit sections of this Order;

(2) Distribute the PMN substances only to a person who will either recover and capture (destroy) or recycle the PMN substances from all effluent process streams and air emissions (point source and fugitive) at an overall efficiency of 99%; and

(3) Distribute the PMN substance P-08-509 in an aqueous dispersion of the polymer product or on a heat treated solid product such that the contents polymer residual P-08-508/509 cumulative total [ ] are below 200 ppb level using the ASE method developed by Larsen et al[1] with the level of quantification (LOQ) for the standard solution at 0.5 ppb. If non-heat treated solid polymer is distributed by the Company, such person shall not further distribute until heat treatment is performed at temperature and residence time sufficient to produce a product with P08-508/509 cumulative residual levels equivalent to the heat treated

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[1]Larsen et al, "Efficient "total" extraction of perfluorooctanoate from polytetrafluoroethylene fluoropolymer", *Analyst*, 2006, 131, 1105-1108.

polymer distributed by the Company, (i.e., below 200 ppb).

(b) Temporary Transport and Storage. Notwithstanding paragraph (a), the Company may distribute the PMN substances outside the Company for temporary transport and storage in sealed containers provided the following two conditions are met:

(1) Subsequent to any such exempt temporary transport or storage of sealed containers, the PMN substances may be distributed only to the Company or a person who has given the Company the written agreement required by paragraph (a).

(2) Any human exposure or environmental release resulting from opening the sealed containers and removing or washing out the PMN substances may occur only while the PMN substances is in the possession and control of the Company or a person who has given the Company the written agreement required by paragraph (a).

(c) Recipient Non-Compliance. If, at any time after commencing distribution in commerce of the PMN substances, the Company obtains knowledge that a recipient of the substance has failed to comply with any of the conditions specified in paragraph (a) of this Distribution section or, after paragraph (a)(1) expires in accordance with subparagraph (d)(1), has engaged in a significant new use of the PMN substances (as defined in 40 CFR Part 721, Subpart E) without submitting a significant new use notice to EPA, the Company shall cease supplying the substance to that recipient, unless the Company is able to document each of the following:

(1) That the Company has, within 5 working days, notified the recipient in writing that the recipient has failed to comply with any of the conditions specified in paragraph (a) of this Distribution section, or has engaged in a significant new use of the PMN substances without

submitting a significant new use notice to EPA.

(2) That, within 15 working days of notifying the recipient of the noncompliance, the Company received from the recipient, in writing, a statement of assurance that the recipient is aware of the terms of paragraph (a) of this Distribution section and will comply with those terms, or is aware of the terms of the significant new use rule for the PMN substances and will not engage in a significant new use without submitting a significant new use notice to EPA.

(3) If, after receiving a statement of assurance from a recipient under subparagraph (c)(2) of this Distribution section, the Company obtains knowledge that the recipient has failed to comply with any of the conditions specified in paragraph (a) of this Distribution section, or has engaged in a significant new use of the PMN substances without submitting a significant new use notice to EPA, the Company shall cease supplying the PMN substances to that recipient, shall notify EPA of the failure to comply, and shall resume supplying the PMN substances to that recipient only upon written notification from the Agency.

(d) Sunset Following SNUR. (1) Paragraph (a)(1) of this Distribution section shall expire 75 days after promulgation of a final SNUR for the PMN substances under section 5(a)(2) of TSCA, unless the Company is notified on or before that day of an action in a Federal Court seeking judicial review of the SNUR. If the Company is so notified, paragraph (a)(1) of this Distribution section shall not expire until EPA notifies the Company in writing that all Federal Court actions involving the SNUR have been resolved and the validity of the SNUR affirmed.

(2) When EPA promulgates a final SNUR for the PMN substances and paragraph (a)(1) of this Distribution section expires in accordance with subparagraph (d)(1), the Company shall notify each person to whom it distributes the PMN substances of the existence of the SNUR. Such

notification must be in writing and must specifically include all limitations contained in the SNUR which are defined as significant new uses, and which would invoke significant new use notification to EPA for the PMN substances. Such notice must also reference the publication of the SNUR for this PMN substances in either the Federal Register or the Code of Federal Regulations. After promulgation of a SNUR and expiration of subparagraph (a)(1), such notice may substitute for the written agreement required in the introductory clause of paragraph (a); so that, if the Company provides such notice to the persons to whom it distributes the PMN substances, then the Company is not required to obtain from such persons the written agreement specified in paragraph (a).

III. RECORDKEEPING

(a) Records. The Company shall maintain the following records until 5 years after the date they are created and shall make them available for inspection and copying by EPA in accordance with section 11 of TSCA:

(1) Exemptions. Records documenting that the PMN substances did in fact qualify for any one or more of the exemptions described in Section I, Paragraph (b) of this Order. Such records must satisfy all the statutory and regulatory recordkeeping requirements applicable to the exemption being claimed by the Company. Any amounts or batches of the PMN substances eligible for the Export exemption in Section I, Paragraph (b)(3) of this Order, are exempt from all the requirements in this Recordkeeping section, if the Company maintains, for 5 years from the date of their creation, copies of the export label and export notice to EPA, required by TSCA sections 12(a)(1)(B) and 12(b), respectively. Any amounts or batches of the PMN substances eligible for the Research and Development exemption in Section I, Paragraph (b)(2) of this Order, are exempt from all the requirements in this Recordkeeping section, if the Company maintains, for

5 years from the date of their creation, the records required by 40 CFR 720.78(b). For any amounts or batches of the PMN substances claimed to be eligible for any other exemption described in Section I, Paragraph (b) of this Order, the Company shall keep records demonstrating qualification for that exemption as well as the records specified in paragraphs (2) and (3) below, but is exempt from the other recordkeeping requirements in this Recordkeeping section;

(2) Records documenting the manufacture and importation volume of the PMN substances and the corresponding dates of manufacture and import;

(3) Records documenting the names and addresses (including shipment destination address, if different) of all persons outside the site of manufacture or import to whom the Company directly sells or transfers the PMN substances, the date of each sale or transfer, and the quantity of the substance sold or transferred on such date;

(4) Records documenting the address of all sites of manufacture, import, processing, and use;

(5) Records documenting establishment and implementation of a program for the use of any applicable personal protective equipment required pursuant to the Protection in the Workplace section of this Order;

(6) Records documenting the determinations required by the Protection in the Workplace section of this Order that chemical protective clothing is impervious to the PMN substances;

(7) Records required by paragraph (f). of the New Chemical Exposure Limits section of this Order, if applicable;

(8) Records documenting compliance with any applicable manufacturing, processing, use, and distribution restrictions in the Manufacturing and Distribution sections of this Order, including distributees' written agreement to comply with the Distribution section of this Order;

(9) Records documenting compliance with the Control of Effluent & Emissions section of this Order;

(10) Copies of any Transfer Documents and notices required by the Successor Liability section of this Order, if applicable; and

(11) The Company shall keep a copy of this Order at each of its sites where the PMN substances are manufactured or imported.

(b) Applicability. The provisions of this Recordkeeping Section are applicable only to activities of the Company and its Contract Manufacturer, if applicable, and not to activities of the Company's customers.

(c) OMB Control Number. Under the Paperwork Reduction Act and its regulations at 5 CFR Part 1320, particularly 5 CFR 1320.5(b), the Company is not required to respond to this "collection of information" unless this Order displays a currently valid control number from the Office of Management and Budget (OMB), and EPA so informs the Company. The "collection of information" required in this TSCA §5(e) Consent Orders has been approved under currently valid **OMB Control Number 2070-0012.**

IV. REQUESTS FOR PRE-INSPECTION INFORMATION

(a) EPA's Request for Information. Pursuant to section 11 of TSCA and 40 CFR 720.122, EPA may ocassionally conduct on-site compliance inspections of Company facilities and conveyances associated with the PMN substances. To facilitate such inspections, EPA personnel may contact the Company in advance to request information pertinent to the scheduling and conduct of such

inspections. Such requests may be written or oral. The types of information that EPA may request may include, but are not limited to, the following:

(i) Expected dates and times when the PMN substances will be in production within the subsequent 12 months;

(ii) Current workshift schedules for workers who are involved in activities associated with the PMN substances and may reasonably be exposed to the PMN substances;

(iii) Current job titles or categories for workers who are involved in activities associated with the PMN substances and may reasonably be exposed to the PMN substances;

(iv) Existing exposure monitoring data for workers who are involved in activities associated with the PMN substances and may reasonably be exposed to the PMN substances;

(v) Records required by the Recordkeeping section of this Order; and/or

(vi) Any other information reasonably related to determining compliance with this Order or conducting an inspection for that purpose.

(b) Company's Response. The Company shall respond to such requests within a reasonable period of time, but in no event later than 30 days after receiving EPA's request. When requested in writing by EPA, the Company's response shall be in writing. To the extent the information is known to or reasonably ascertainable to the Company at the time of the request, the Company's response shall demonstrate a good faith effort to provide reasonably accurate and detailed answers to all of EPA's requests.

(c) Confidential Business Information. Any Confidential Business Information ("CBI") that the Company submits to EPA pursuant to paragraph (b) shall be protected in accordance with §14 of

TSCA and 40 CFR Part 2.

V. SUCCESSOR LIABILITY UPON TRANSFER OF CONSENT ORDER

(a) Scope. This section sets forth the procedures by which the Company's rights and obligations under this Order may be transferred when the Company transfers its interests in the PMN substances, including the right to manufacture the PMN substances, to another person outside the Company (the "Successor in Interest").

(b) Relation of Transfer Date to Notice of Commencement ("NOC").

(1) Before NOC. If the transfer from the Company to the Successor in Interest is effective before EPA receives a notice of commencement of manufacture or import ("NOC") for the PMN substances from the Company pursuant to 40 CFR 720.102, the Successor in Interest must submit a new PMN to EPA and comply fully with Section 5(a)(1) of TSCA and 40 CFR part 720 before commencing manufacture or import of the PMN substances.

(2) After NOC. If the transfer from the Company to the Successor in Interest is effective after EPA receives a NOC, the Successor in Interest shall comply with the terms of this Order and shall not be required to submit a new PMN to EPA.

(c) Definitions. The following definitions apply to this Successor Liability section of the Order:

(1) "Successor in Interest" means a person outside the Company who has acquired the Company's full interest in the rights to manufacture the PMN substances, including all ownership rights and legal liabilities, through a transfer document signed by the Company, as transferor, and the Successor in Interest, as transferee. The term excludes persons who acquire less than the full

interest of the Company in the PMN substances, such as a licensee who has acquired a limited license to the patent or manufacturing rights associated with the PMN substances. A Successor in Interest must be incorporated, licensed, or doing business in the United States in accordance with 40 CFR 720.22(a)(3).

(2) "Transfer Document" means the legal instrument(s) used to convey the interests in the PMN substances, including the right to manufacture the PMN substances, from the Company to the Successor in Interest.

(d) Notices.

(1) Notice to Successor in Interest. On or before the effective date of the transfer, the Company shall provide to the Successor in Interest, by registered mail, a copy of the Consent Order and the "Notice of Transfer" document which is incorporated by reference as Attachment C to this Order.

(2) Notice to EPA. Within 10 business days of the effective date of the transfer, the Company shall, by registered mail, submit the fully executed Notice of Transfer document to: U.S. Environmental Protection Agency, New Chemicals Branch (7405), 1200 Pennsylvania Avenue, N.W., Washington, D.C. 20460.

(3) Transfer Document. Copies of the Transfer Document must be maintained by the Successor in Interest at its principal place of business, and at all sites where the PMN substances is manufactured or imported. Copies of the Transfer Document must also be made available for inspection pursuant to Section 11 of TSCA, must state the effective date of transfer, and must contain provisions which expressly transfer liability for the PMN substances under the terms of this Order from the Company to the Successor in Interest.

(e) Liability.

(1) The Company shall be liable for compliance with the requirements of this Order until the effective date of the transfer described above.

(2) The Successor in Interest shall be liable for compliance with the requirements of this Order effective as of the date of transfer.

(3) Nothing in this section shall be construed to prohibit the Agency from taking enforcement action against the Company after the effective date of the transfer for actions taken, or omissions made, during the time in which the Company manufactured, processed, used, distributed in commerce, or disposed of the PMN substances pursuant to the terms of this Consent Order.

(f) Obligations to Submit Test Data under Consent Order. If paragraph (d) of the Testing section of this Consent Order requires the Company to submit test data to EPA at a specified production volume ("test trigger"), the aggregate volume of the PMN substances manufactured and imported by the Company up to the date of transfer shall count towards the test trigger applicable to the Successor in Interest.

VI. MODIFICATION AND REVOCATION OF CONSENT ORDER

The Company may petition EPA at any time, based upon new information on the health effects of, or human exposure to, the PMN substances, to modify or revoke substantive provisions of this Order. The exposures and risks identified by EPA during its review of the PMN substances and the information EPA determined to be necessary to evaluate those exposures and risks are described in the preamble to this Order. However, in determining whether to amend or revoke this Order, EPA will consider all relevant information available at the time the Agency makes that

determination, including, where appropriate, any reassessment of the test data or other information that supports the findings in this Order, an examination of new test data or other information or analysis, and any other relevant information.

EPA will issue a modification or revocation if EPA determines that the activities proposed therein will not present an unreasonable risk of injury to health or the environment and will not result in significant or substantial human exposure or substantial environmental release in the absence of data sufficient to permit a reasoned evaluation of the health or environmental effects of the PMN substances.

In addition, the Company may petition EPA at any time to make other modifications to the language of this Order. EPA will issue such a modification if EPA determines that the modification is useful, appropriate, and consistent with the structure and intent of this Order as issued.

VII. EFFECT OF CONSENT ORDER

By consenting to the entry of this Order, the Company waives its rights to file objections to this Order pursuant to section 5(e)(1)(C) of TSCA, to receive service of this Order no later than 45 days before the end of the review period pursuant to section 5(e)(1)(B) of TSCA, and to challenge the validity of this Order in any subsequent action. Consenting to the entry of this Order, and agreeing to be bound by its terms, do not constitute an admission by the Company as to, the facts or conclusions underlying the Agency's determinations in this proceeding. This waiver does not affect any other rights that the Company may have under TSCA.

1/26/09
Date

/s/
Jim Willis, Director
Chemical Control Division
Office of Pollution Prevention and Toxics

1/28/09
Date

/s/
Name: James R. Hoover

Title: Global Regulatory Manager

Company: DuPont Company

ATTACHMENT A

DEFINITIONS

[Note: The attached Order may not contain some of the terms defined below.]

"Chemical name" means the scientific designation of a chemical substance in accordance with the nomenclature system developed by the International Union of Pure and Applied Chemistry or the Chemical Abstracts Service's rules of nomenclature, or a name which will clearly identify a chemical substance for the purpose of conducting a hazard evaluation.

"Chemical protective clothing" means items of clothing that provide a protective barrier to prevent dermal contact with chemical substances of concern. Examples can include, but are not limited to: full body protective clothing, boots, coveralls, gloves, jackets, and pants.

"Company" means the person or persons subject to this Order.

"Commercial use" means the use of a chemical substance or any mixture containing the chemical substance in a commercial enterprise providing saleable goods or a service to consumers (e.g., a commercial dry cleaning establishment or painting contractor).

"Common name" means any designation or identification such as code name, code number, trade name, brand name, or generic chemical name used to identify a chemical substance other than by its chemical name.

"Consumer" means a private individual who uses a chemical substance or any product containing the chemical substance in or around a permanent or temporary household or residence, during recreation, or for any personal use or enjoyment.

"Consumer product" means a chemical substance that is directly, or as part of a mixture, sold or made available to consumers for their use in or around a permanent or temporary household or residence, in or around a school, or in recreation.

"Container" means any bag, barrel, bottle, box, can, cylinder, drum, reaction vessel, storage tank, or the like that contains a hazardous chemical. For purposes of this section, pipes or piping systems, and engines, fuel tanks, or other operating systems in a vehicle, are not considered to be containers.

"Contract Manufacturer" means a person, outside the Company, who is authorized to manufacture and import the PMN substance under the conditions specified in Part II. of this Consent Order and in the Consent Order for Contract Manufacturer.

"Identity" means any chemical or common name used to identify a chemical substance or a mixture containing that substance.

"Immediate use." A chemical substance is for the "immediate use" of a person if it is under the control of, and used only by, the person who transferred it from a labeled container and will only be used by that person within the work shift in which it is transferred from the labelled container.

"Impervious." Chemical protective clothing is "impervious" to a chemical substance if the substance causes no chemical or mechanical degradation, permeation, or penetration of the chemical protective clothing under the conditions of, and the duration of, exposure.

"Manufacturing stream" means all reasonably anticipated transfer, flow, or disposal of a chemical substance, regardless of physical state or concentration, through all intended operations of manufacture, including the cleaning of equipment.

"MSDS" means material safety data sheet, the written listing of data for the chemical substance.

"NIOSH" means the National Institute for Occupational Safety and Health of the U.S. Department of Health and Human Services.

"Non-enclosed process" means any equipment system (such as an open-top reactor, storage tank, or mixing vessel) in which a chemical substance is manufactured, processed, or otherwise used where significant direct contact of the bulk chemical substance and the workplace air may occur.

"Non-industrial use" means use other than at a facility where chemical substances or mixtures are manufactured, imported, or processed.

"PMN substance" means the chemical substance described in the Premanufacture notice submitted by the Company relevant to this Order.

"Personal protective equipment" means any chemical protective clothing or device placed on the body to prevent contact with, and exposure to, an identified chemical substance or substances in the work area. Examples include, but are not limited to, chemical protective clothing, aprons, hoods, chemical goggles, face splash shields, or equivalent eye protection, and various types of respirators. Barrier creams are not included in this definition.

"Process stream" means all reasonably anticipated transfer, flow, or disposal of a chemical substance, regardless of physical state or concentration, through all intended operations of processing, including the cleaning of equipment.

"Scientifically invalid" means any significant departure from the EPA-approved protocol or the Good Laboratory Practice Standards at 40 CFR Part 792 without prior or subsequent Agency approval that prevents a reasoned evaluation of the health or environmental effects of the PMN substance.

"Scientifically equivocal data" means data which, although developed in apparent conformity with the Good Laboratory Practice Standards and EPA-approved protocols, are inconclusive, internally inconsistent, or otherwise insufficient to permit a reasoned evaluation of the potential risk of injury to human health or the environment of the PMN substance.

"Sealed container" means a closed container that is physically and chemically suitable for long-term containment of the PMN substance, and from which there will be no human exposure to, nor environmental release of, the PMN substance during transport and storage.

"Use stream" means all reasonably anticipated transfer, flow, or disposal of a chemical substance, regardless of physical state or concentration, through all intended operations of industrial, commercial, or consumer use.

"Waters of the United States" has the meaning set forth in 40 CFR 122.2.

"Work area" means a room or defined space in a workplace where the PMN substance is manufactured, processed, or used and where employees are present.

"Workplace" means an establishment at one geographic location containing one or more work areas.

ATTACHMENT B

STATISTICAL ANALYSIS OF NCELs ANALYTICAL METHOD VERIFICATION RESULTS

This Attachment describes the statistical technique (with examples) for comparing the analytical results obtained by two laboratories pursuant to paragraph (c)(3)(vii) of the New Chemical Exposure Limit section of this Order.

STATISTICAL TECHNIQUE

To obtain two-sample t test with unequal variances, perform the following operations:

- Compute means of the data measured by two laboratories.
- Compute mean squares

$$S_i^2 = \sum(\bar{X}_{ij} - X_i)^2/(n_i - 1),\ i=1, 2$$

- Form the ratio

$$T = (\bar{X}_1 - \bar{X}_2)/(W_1 + W_2)^{1/2}$$

- Compute degrees of freedom

$$f = (W_1 + W_2)^2/[W_1^2/(n_1 - 1) + W_2^2/(n_2 - 1)]$$

where,

$W_1 = S_1^2/n_1,\ i = 1, 2$

$\bar{X}_1$ = Average of the results from the company laboratory

$\bar{X}_2$ = Average of the results from the independent laboratory

n_1 = Number of samples analyzed by the company laboratory

n_2 = Number of samples analyzed by the independent laboratory.

Then compare the absolute value of T to the 97.5 percentile point of a t distribution with f degrees of freedom. If the absolute value exceeds the 97.5 percentile point, the results measured

by two laboratories are significantly different at 95% level. Otherwise, they are not significantly different. In general, f may not be a integer. Use interpolation to obtain the 97.5 percentile point of a t distribution with f degrees of freedom.

EXAMPLES -- The following examples (based on simulated data) illustrate the method:

Example 1

Data Set 1	Data Set 2
80.56	97.11
100.01	102.13
86.04	99.83
52.61	97.83
84.85	105.44
95.75	100.04

$\bar{X}_1 = 83.30$ $n_1 = 6$ $\bar{X}_2 = 100.40$ $n_2 = 6$

$S_1^1 = 278.72$ $W_1 = 46.25$ $S_2^2 = 9.26$ $W_2 = 1.54$

Absolute value of $T = 2.467$ $f = 5.33$

The t table shows that the 97.5 percentile point is 2.571 and 2.447 for 5 and 6 degrees of freedom, respectively. For 5.33 degrees of freedom, the 97.5 percentile point will be approximately 2.530 which is greater than the absolute value of T, 2.467. Hence, the means of two data sets are not significantly different at the 5% level.

However, if this problem had been treated as an ordinary two-sample t test, the means would be significantly different at the 5% level because the absolute of T is greater than 2.228, the 97.5 percentile point for the t distribution with 10 degrees of freedom.

Example 2

Data Set 1	Data Set 2
82.87	108.05
101.85	96.51
87.44	100.04
99.68	104.33
101.15	110.32
99.21	107.00

$\bar{X}_1 = 95.37$ $n_1 = 6$ $\bar{X}_2 =$ 104.37 $n_2 = 6$

$S_1^1 = 65.59$ $W_1 = 10.93$ $S_2^2 = 27.25$ $W_2 = 4.54$

Absolute value of $T = 2.290$ $f = 8.54$

The t table shows that for 8 and 9 degrees of freedom the 97.5 percentile point is 2.306 and 2.262, respectively. For 8.54 degrees of freedom the 97.5 percentile point will be approximately 2.282 which is less than the absolute value of T, 2.290. Hence, the means of two data sets are significantly different at the 5% level.

ATTACHMENT C

NOTICE OF TRANSFER
OF
TOXIC SUBSTANCES CONTROL ACT
SECTION 5(e) CONSENT ORDER

_____ _____
Company (Transferor) PMN Number

1. Transfer of Manufacture Rights. Effective on _____, the Company did sell or otherwise transfer to _____, ("Successor in Interest") the rights and liabilities associated with manufacture of the above-referenced chemical substance, which was the subject of a premanufacture notice ("PMN") and is governed by a Consent Order issued by the U.S. Environmental Protection Agency ("EPA") under the authority of §5(e) of the Toxic Substances Control Act (TSCA, 15 U.S.C. §2604(e)).

2. Assumption of Liability. The Successor in Interest hereby certifies that, as of the effective date of transfer, all actions or omissions governed by the applicable Consent Order limiting manufacture, processing, use, distribution in commerce and disposal of the PMN substance, shall be the responsibility of the Successor in Interest. Successor in Interest also certifies that it is incorporated, licensed, or doing business in the United States in accordance with 40 CFR 720.22(a)(3).

3. Confidential Business Information. The Successor in Interest hereby:

___ reasserts,

___ relinquishes, or

___ modifies

all Confidential Business Information ("CBI") claims made by the Company, pursuant to Section 14 of TSCA and 40 CFR part 2, for the PMN substance(s). Where "reasserts" or "relinquishes" is indicated, that designation shall be deemed to apply to all such claims. Where "modifies" is indicated, such modification shall be explained in detail in an attachment to this Notice of Transfer. Information which has been previously disclosed to the public (e.g., a chemical identity that was not claimed as CBI by the original submitter) would not subsequently be eligible for confidential treatment under this Notice of Transfer.

TOXIC SUBSTANCES CONTROL ACT
SECTION 5(e) CONSENT ORDER

NOTICE OF TRANSFER
(continued)

Company (Transferor)	PMN Number
Signature of Authorized Official	Date

Printed Name of Authorized Official

Title of Authorized Official

Successor in Interest

Signature of Authorized Official	Date

Printed Name of Authorized Official

Title of Authorized Official

Address

City, State, Zip Code

TOXIC SUBSTANCES CONTROL ACT
SECTION 5(e) CONSENT ORDER

NOTICE OF TRANSFER
(continued)

_____
Successor's Technical Contact

_____
Address

_____
City, State, Zip Code

_____
Phone

To: Sweeney, Matthew L[Matthew.L.Sweeney@wv.gov]
From: Moncavage, Carissa
Sent: Thur 7/26/2018 6:56:06 PM
Subject: RE: The Chemours Company LLC (WV0001279)

Hi Matt,

EPA has no further comments.

Thanks,
Carissa

From: Sweeney, Matthew L [mailto:Matthew.L.Sweeney@wv.gov]
Sent: Tuesday, July 24, 2018 5:31 PM
To: Moncavage, Carissa <Moncavage.Carissa@epa.gov>
Cc: Patel, Yogesh P <Yogesh.P.Patel@wv.gov>; Trulear, Brian <Trulear.Brian@epa.gov>; Hales, Dana <Hales.Dana@epa.gov>; Cruz, Francisco <Cruz.Francisco@epa.gov>
Subject: RE: The Chemours Company LLC (WV0001279)

Carissa,

The agency concurs that the facility is subject to 316(b) of the Clean Water Act. The language in the fact sheet was more subjective in that it was simply indicating that the facility was potentially subject to it and that the necessary information relative to 316(b) needed to be submitted. As the permit properly contains requirements for the submittal of pertinent information regarding 316(b) as well as properly prescribes that the permittee is subject to 316(b), the agency believes the permit contains the necessary information.

Please let us know if this addresses EPA's comments.

Thanks,
Matt Sweeney, P.E.
NPDES Individual Permitting Supervisor
WV Department of Environmental Protection
Division of Water and Waste Management
601 57th Street, SE
Charleston, WV 25304

From: Moncavage, Carissa <Moncavage.Carissa@epa.gov>
Sent: Thursday, May 31, 2018 4:01 PM
To: Sweeney, Matthew L <Matthew.L.Sweeney@wv.gov>
Cc: Patel, Yogesh P <Yogesh.P.Patel@wv.gov>; Trulear, Brian <Trulear.Brian@epa.gov>; Hales, Dana <Hales.Dana@epa.gov>; Cruz, Francisco <Cruz.Francisco@epa.gov>
Subject: The Chemours Company LLC (WV0001279)

Matt,

According to our Memorandum of Agreement, the Environmental Protection Agency (EPA) Region III has received the draft National Pollutant Discharge Elimination System (NPDES) permit for:

The Chemours Company (a.k.a. Washington Works, a.k.a. Dupont)
NPDES Number: WV001279
EPA Received: April 16, 2018

This is a major permit discharging to Ohio River and is affected by the OCPSF ELG found at 40CFR Part 414 subparts C, D, E, I and J. EPA has chosen to perform a limited review based on the application of the ELG's, WQBEL/TBEL evaluations,

316(b) requirements, and compliance schedule requirements. I have completed my review and offer one comment:

1. The fact sheet states that the facility's cooling water structure is *potentially* subject to 316(b) requirements. We recommend removing the word "potentially" since both the permit and fact sheet have established that this facility is subject to 316(b) of the Clean Water Act.

Please provide me with any changes to the draft permit and/or fact sheet.

Regards,

Carissa Moncavage
U.S. EPA Region 3 | Water Protection Division
NPDES Permits Branch
1650 Arch Street (3WP41), Philadelphia, PA 19103
Ph: (215) 814-5798 | Fax: (215) 814-2318
(pronouns: she/her)